U.S. Environmental Protection Agency
Office of Waste Programs Enforcement
Contract No. 68-W9-0006

[redacted]

TES 9

Technical Enforcement Support at Hazardous Waste Sites Zone III Regions 5,6, and 7

PRC Environmental Management, Inc.

170
A.

DRAFT
PRELIMINARY ASSESSMENT REPORT

RCRA FACILITY ASSESSMENT
HYDROCARBON RECYCLERS, INC.
WICHITA, KANSAS

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, D.C. 20460

Work Assignment No.	:	R07015
USEPA Region	:	7
Date Prepared	:	September 24, 1990
Contract No.	:	68-W9-0006
PRC No.	:	009R07015
Prepared by	:	B&V Waste Science and Technology Corp.
Work Assignment Manager	:	John P. Nett
Telephone No.	:	913/339-2900
USEPA Primary Contract	:	Mark Matthews
Telephone No.	:	913/551-7635

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LIST OF ABBREVIATIONS

BVWST	B&V Waste Science and Technology Corp.
CEI	compliance envaluation inspection
CM	corrective measures
cm/s	centimeters per second
CSI	Conservation Services, Inc.
gpd	gallons per day
HRI	Hydrocarbon Recyclers, Inc.
KDHE	Kansas Department of Health and Environment
msl	mean sea level
NOAA	National Oceanic and Atmospheric Administration
NOD/LOW	Notice of Defiency/Letter Of Warning
NOV	notice of violation
PR	preliminary review
PRC	PRC Environmental Management, Inc.
RCRA	Resource Conservation and Recovery Act
RFA	RCRA facility assessment
RFI	RCRA facility investigation
RI	remedial investigation
RSC	Reid Supply Company
SCS	Soil Conservation Service
SCSC	Service Chemical Supply Company
SV	sampling visit
SWMU	solid waste management unit
TSD	treatment storage and disposal
ug/l	micrograms per liter
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USPCI	U.S. Pollution Control, Inc.
VOC	volatile organic compound
VSI	visual site inspection
WNID	Wichita North Industrial District

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC) received Work Assignment No. R07015 from the U.S. Environmental Protection Agency (USEPA) under Contract No. 68-W9-0006 (TES 9). Under this work assignment, Black & Veatch Waste Science and Technology Corp. (BVWST) will provide technical support to USEPA in the performance of a Resource Conservation and Recovery Act (RCRA) facility assessment (RFA) of the Hydrocarbon Recyclers, Inc. facility in Wichita, Kansas.

The purpose of this report is to document the first two steps in the RFA process [the preliminary review (PR) and the visual site inspection (VSI)]. This Preliminary Assessment report will document the information gathered in the PR and VSI and will evaluate the need for a sampling visit (SV). This report is an intermediate step in the RFA under the RCRA corrective action program. Information in Sections 1.1 and 1.2 has been developed from the RCRA Facility Assessment Guidance (USEPA, 1986).

1.1 HAZARDOUS AND SOLID WASTE AMENDMENTS AND OTHER REGULATORY AUTHORITY

The Hazardous and Solid Waste Amendments (HSWA) of November 8, 1984 provide the USEPA with the authority to require corrective action at RCRA treatment, storage, and disposal (TSD) facilities. These authorities include:

- §3004(u) - Corrective Action for Continuing Releases
  Requires that any permit issued after November 8, 1984 provide for corrective action for all releases from solid waste management units (SWMUs) at the facility regardless of the time which waste was placed in the unit. The provision also requires that owners/operators demonstrate financial assurance for any required corrective action, and allows schedules of compliance to be used in permits where the corrective action cannot be completed prior to permit issuance.

- §3008(h) - Interim Status Corrective Action Orders
  Provides authority to issue enforcement orders to compel corrective actions or other response measures at interim status facilities, as well as authority to take civil action against facilities for appropriate relief.

- §3004(v) - Corrective Action Beyond the Facility Boundary
  Directs USEPA to issue regulations requiring corrective action beyond the facility boundary to protect human health and the environment. The only exception to this is if the owner/operator can demonstrate that it is unable to obtain permission to take corrective action on offsite property. Until the regulations requiring corrective action beyond the facility boundary are promulgated, corrective action orders may be issued to require the necessary corrective action.

The HSWA §3004(u) provision focuses on investigating releases from SWMUs at RCRA facilities. SWMUs are defined as "any discernible (solid) waste (as defined in 40 CFR 261.2) unit at a RCRA facility from which hazardous constituents might migrate, irrespective of whether the unit was intended for the management of solid and/or hazardous waste" (USEPA, 1986). The SWMU definition includes containers; tanks; surface impoundments; waste piles; land treatment units; landfills; incinerators; underground injection wells; wastewater treatment units; recycling units; and areas contaminated by routine, and systematic discharges from a process area. The §3008(h) authority applies to any release of hazardous wastes and/or hazardous constituents from an Interim Status TSD facility. Other HSWA authorities that may be utilized by USEPA in addressing releases include:

- §3005(c) - Permit Issuance
  Authorizes USEPA, upon determination that a facility is in compliance with Sections 3004 and 3005 of RCRA, to issue permits to TSD facilities that have applied for such permits.

- §3007 - Inspections
  Permits USEPA to enter, inspect, sample, and examine records of any generator or TSD facility for purposes of developing any regulation or enforcing the provisions of RCRA.

- §3008(a) - Compliance Orders
  In case of a violation of RCRA Subtitle C--Hazardous Waste Management, this section authorizes USEPA either to issue an order assessing a civil penalty and/or requiring compliance, or to commence a civil action for appropriate relief.

- §3013 - Monitoring, Analysis, and Testing
  Provides authority to order a TSD facility to perform monitoring, analysis and testing at the site, if there is a potential for a substantial hazard to human health or the environment. If the facility cannot perform the

work, USEPA may perform it, or USEPA may authorize the state to perform the monitoring.

- §7003 - Imminent Hazard
  Authorizes USEPA to bring suit to prohibit handling, transportation, treatment, storage or disposal of a solid or hazardous waste if "imminent or substantial endangerment to health or the environment" is present. This Section also authorizes USEPA to take other appropriate actions, as necessary.

1.2 RCRA CORRECTIVE ACTION PROGRAM

The RCRA corrective action program derived from the HSWA authorities consists of three phases:

- The RFA to identify releases, or potential releases, requiring further investigation.
- The RCRA Facility Investigation (RFI) to fully characterize the extent of releases.
- Corrective Measures (CM) to determine the need for, and extent of, remedial measures. This step includes the selection and implementation of appropriate remedies for all problems identified.

The specific intent of the RFA is to identify and gather information on releases at RCRA facilities, to evaluate solid waste management units and other areas of concern for releases to all media, and to make preliminary determinations regarding releases of concern and the need for further actions and interim measures at the facility.

The RFA potentially consists of three steps: the Preliminary Review (PR), the Visual Site Inspection (VSI), and the Sampling Visit (SV). The PR focuses on evaluating existing data in the form of inspection reports, permit applications, historical monitoring data, and information obtained through interviews with state personnel who are familiar with the facility. The VSI, the second step, consists of a visit to the facility for visual data collection to assist in determining whether releases have occurred. The optional third step of the RFA is the SV, which may be used to fill data gaps, if any remain after completion of the PR and VSI.

1.3 PRELIMINARY REVIEW

The preliminary review for the Hydrocarbon Recyclers, Inc. (HRI) involved review of USEPA Region VII and Kansas Department of Health and Environment (KDHE) file documents for the facility. The PR was conducted in March 1990 by Mr. John Nett of BVWST. Documents reviewed as a part of the PR included RCRA Part A and B permitting records, inspection and enforcement records and correspondence, and facility submittals to KDHE and USEPA. Specific file documents that were reviewed and incorporated into this report include the following:

- RCRA Part B Permit Application for Reid Supply Company, Wichita, Kansas. December 6, 1984.
- Report of RCRA Compliance Inspection at Reid Supply Company, Wichita, Kansas. USEPA Region VII, Environmental Services Division. April 5-6, 1984.
- Part B Application Inspection Report, Reid Supply Company. October 30, 1984.
- Re-inspection at Reid Supply Company, Wichita, Kansas, to determine compliance with State Order (RCRA). USEPA Region VII Memorandum. July 26, 1984.
- RCRA Compliance Inspection Report, Conservation Services, Inc. KDHE. July 2, 1987.
- Partial Closure Plan, Hydrocarbon Recyclers, Inc. April 1988.
- RCRA Compliance Inspection Report, Conservation Services -- Hydrocarbon Recyclers, Inc. June 28, 1988.
- RCRA Compliance Inspection Report, Hydrocarbon Recyclers, Inc. June 21, 1989.

Information from these documents, as well as other file and background sources, helped to identify and characterize the solid waste management units and other areas of concern, as well as potential release from these locations at the HRI facility.

1.4 VISUAL SITE INSPECTION OF HYDROCARBON RECYCLERS, INC.

A visual site inspection was conducted at the HRI Wichita, Kansas, facility on June 19, 1990. The VSI was conducted by Mr. John Nett, civil engineer, and Mr. Jerome Frizzell, environmental scientist, with BVWST. Accompanying BVWST personnel on the VSI were Mr. Mark Matthews, USEPA Region VII - RCRA Permits Section, and Ms. Brenda Clark, KDHE. Representing HRI during the inspection were Mr. Charles Trumbold, General Manager - HRI Wichita, Kansas facility; Mr. David Trumbold, Sales Manager - HRI Wichita, Kansas facility; and Ms. Catherine Orban, Permit Writer - HRI Tulsa Operations. During the VSI, the history of the facility and current waste operations were reviewed, solid waste management units and areas of concern were discussed and observed, and photographs of these areas were taken. Data gaps which remained following the PR were addressed during the discussions with the HRI representatives. Additional information gathered during the VSI has been incorporated into this preliminary assessment report. A summary of the VSI and a log of the photographs taken during the VSI are contained in Appendices A and B of this report, respectively.

2.0 ENVIRONMENTAL SETTING

This section provides a description of the environmental setting for the HRI facility and includes an overview of the climate, topography, surface water and ground water flow patterns, geology, and physical setting for the area which encompasses the site.

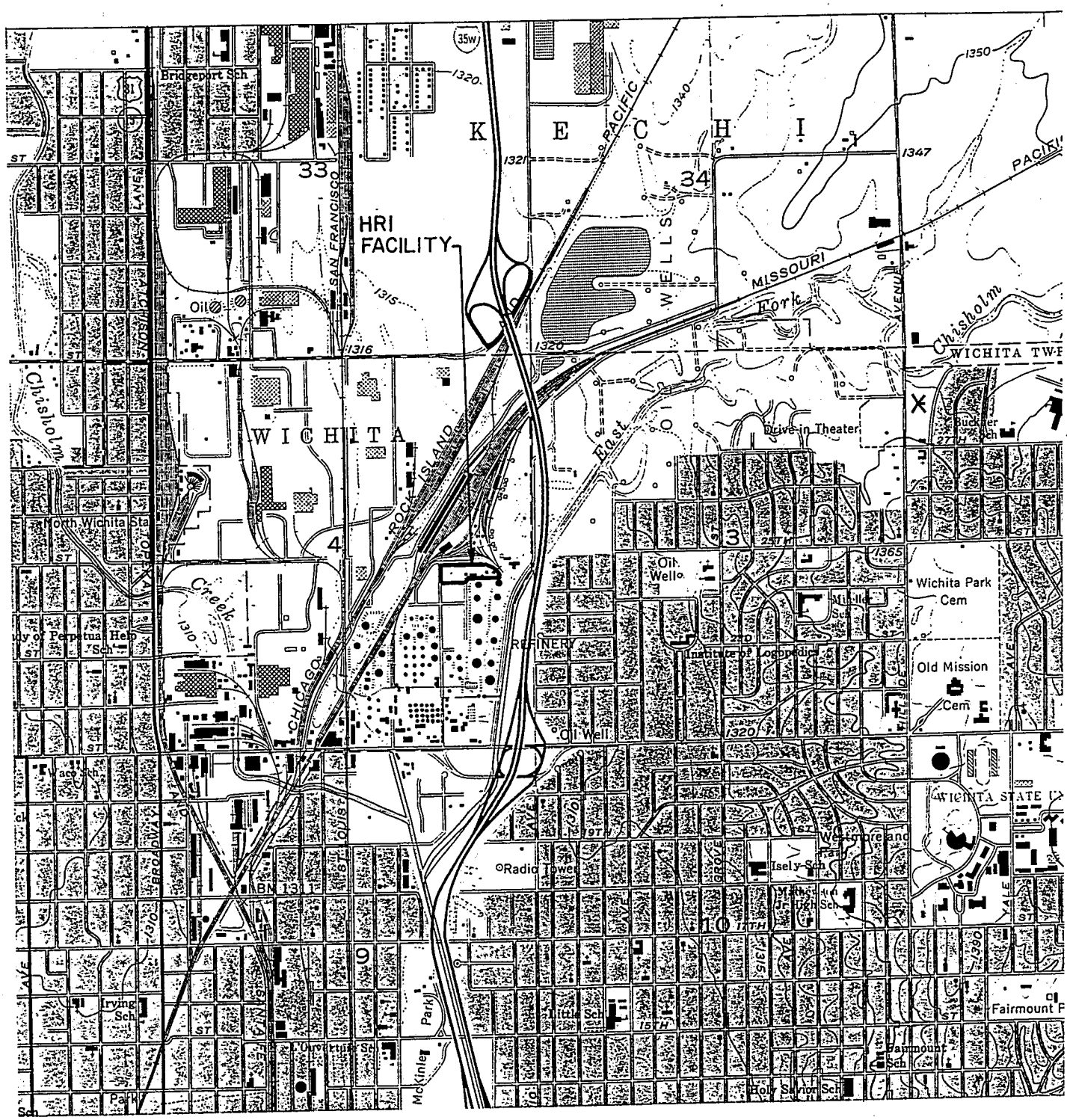
2.1 FACILITY LOCATION AND GEOGRAPHIC SETTING

The HRI facility is located in the NE 1/4 of the SE 1/4 of Section 4, Township 27 South, Range 1 East from the Sixth Principal Meridian. The facility is located in a highly industrialized section of the City of Wichita, Kansas as shown on Figure 2-1. Wichita is located in the east central portion of Sedgwick County, Kansas and lies at the western edge of the Central Lowland physiographic province. The HRI facility lies within an area drained by the Arkansas River and is included in the Arkansas River Lowlands section of the Central Lowland province. The Great Bend Lowland, the portion of the Arkansas River Lowlands section which includes the City of Wichita, is characterized as a flat smooth plain with local relief ranging from 0 to 300 feet (Bevans, 1989). The HRI facility itself is characterized by minimal relief with surface elevations varying from 1310 to 1320 feet above mean sea level (msl).

2.2 CLIMATOLOGY

Local climatological data for Wichita, Kansas has been summarized in Table 2-1. The climate of the Wichita area is controlled by conflicting air masses of warm, moist air from the Gulf of Mexico and cold, dry air from the Arctic region. Weather patterns vary widely throughout the year. Summers are typically warm and humid with a daily average temperature of 81.4°F in July, the warmest month (NOAA, 1988). Temperatures above 90°F occur an average of 63 days per year. Hot and dry periods are not uncommon during the summer months. Winters are typically mild with brief periods of cold. The average daily temperature in January, the coolest month, is 29.6°F (NOAA, 1988). Temperatures below 0°F occur an average of 2 daysper year. Freezing temperatures can be expected from early November through late March. The average growing season is 208 days (Lane, 1965).

Average annual precipitation is nearly 30 inches and the maximum recorded 24 hour rainfall of 5.03 inches (NOAA, 1988). Seventy percent of the annual rainfall occurs during the growing season from April through September. Severe weather,



SOURCE: U.S. GEOLOGICAL SURVEY, 7.5 MINUTE SERIES (TOPOGRAPHIC)
WICHITA EAST QUADRANGLE, KANSAS, 1961.

FIGURE 2-1
SITE VICINITY MAP
HRI FACILITY
RCRA FACILITY ASSESSMENT

TABLE 2-1 CLIMATOLOGICAL DATA, WICHITA, KANSAS.

	Temperature (deg F)					Precipitation (in.)				Snowfall (in.)		Surface Winds	
Month	Mean Daily Max.	Mean Daily Min.	Mean Monthly	Extreme Max.	Extreme Min.	Monthly Mean	Monthly Max.	Monthly Min.	Max. 24 Hrs.	Monthly Max.	Max. 24 Hrs.	Prevailing Direction	Mean Speed (mph
Jan	40	19	30	75	-12	0.68	2.73	T	1.72	19.7	13.0	S	12.2
Feb	46	24	35	84	-21	0.85	3.33	0.02	1.53	16.7	11.9	N	12.7
Mar	56	32	44	89	-2	2.01	9.17	0.01	2.65	16.5	13.5	S	14.1
Apr	68	45	56	96	15	2.30	5.57	0.22	2.51	4.6	4.6	S	14.1
May	77	55	66	100	31	3.91	8.85	0.52	4.70	0.0	0.0	S	12.4
Jun	87	65	76	110	43	4.06	10.46	0.94	4.98	0.0	0.0	S	12.1
Jul	93	70	81	113	51	3.62	9.22	0.05	3.86	0.0	0.0	S	11.2
Aug	92	68	80	110	48	2.80	7.91	0.31	3.76	0.0	0.0	S	11.1
Sep	82	59	71	105	31	3.45	9.46	0.03	3.03	0.0	0.0	S	11.6
Oct	71	47	59	95	21	2.47	6.13	T	5.03	0.1	0.1	S	11.9
Nov	55	34	44	85	1	1.47	5.88	T	4.33	7.1	6.8	S	12.2
Dec	45	24	34	83	-10	0.99	4.71	0.03	2.60	13.8	9.0	S	12.1
Ann	68	45	56	113	-21	28.61	10.46	T	5.03	19.7	13.5	S	12.3

Source: Local Climatological Data, Annual Summary, Wichita, Kansas, NOAA, 1988.
Period of record for normals: 1951 - 1988

T indicates trace amounts

characterized by heavy rainfall, strong winds, and tornados, is not uncommon during the spring and early summer months. Average annual snowfall is nearly 20 inches per year (NOAA, 1988).

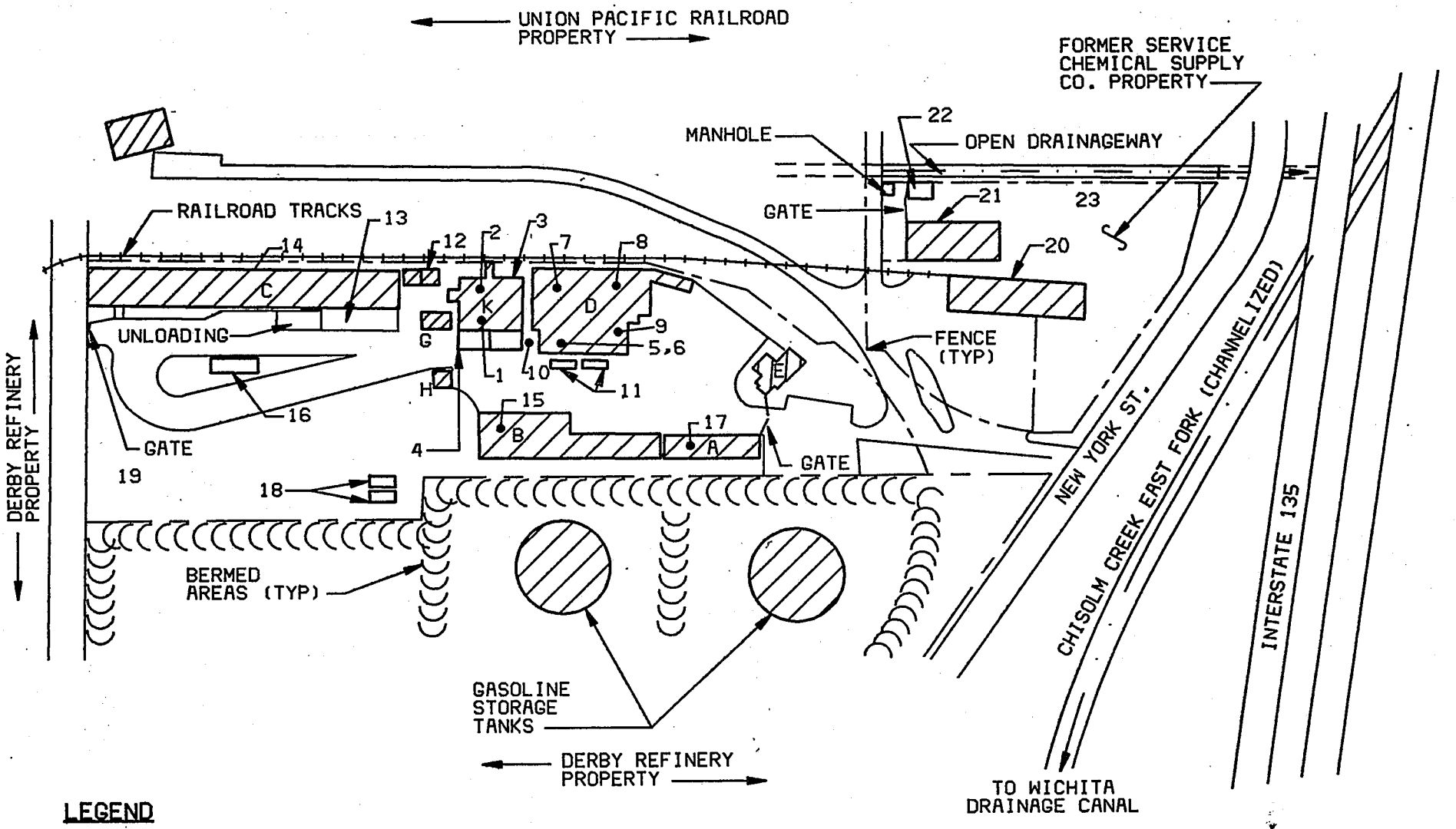
The average annual prevailing wind direction is from the south, with the exception of northerly winds prevailing during the month of February. The average annual wind speed is 12.3 miles per hour. Wind speeds average 14.1 miles per hour during the months of March and April (NOAA, 1988).

2.3 HYDROLOGY

As mentioned in subsection 2.1, the HRI facility lies within the tributary basin for the Arkansas River. The Arkansas River Valley is characterized by very little relief. Surface water from the HRI facility drains to tributaries of Chisolm Creek, a tributary to the Arkansas River. Chisolm Creek has been channelized south of 21st Street (see in Figure 2-1) and receives only local drainage at this location (Bevans, 1989). This concrete-lined channel, the Wichita Drainage Canal, originates south of the intersection of 21st and Wabash and receives flow from a tributary to Chisolm Creek. This tributary receives surface runoff from a highly industrialized area which includes several heavy industries and the Union Pacific and Chicago-Rock Island rail yards, northwest of HRI. From this point, the channel proceeds southeast where flow from Chisolm Creek and the East Fork of Chisolm Creek are received.

The Wichita Drainage Canal primarily flows south between the northbound and southbound lanes of Interstate 135 in the vicinity of HRI, and is utilized for flood control along the Chisolm Creek drainage basin. The canal receives streamflow from Dry Creek and Gypsum Creek, six miles south of HRI, prior to discharging to the Arkansas River, approximately seven miles south of the HRI facility.

Surface water runoff from the central portion of the HRI (see Figure 2-2) property primarily flows north and west (Trombold, 1984). Runoff flows parallel to the northern boundary of the property, then flows south along the western boundary of the property. Runoff from the southcentral and southwestern portions of the property flows south toward a berm which provides containment for above ground oil storage tanks on the adjacent Derby Refinery property, then parallel to the



LEGEND

1. PROCESS AREA STORAGE TANKS
2. WASTE BLENDING AND DRUM PROCESSING
3. FORMER DRUM PROCESSING AREA
4. PROCESS AREA TRUCK BAY
5. SPARGING AREA
6. HOT ROOM
7. ELEVATED TANK STORAGE AREA
8. NONREGULATED WASTE STORAGE AREA
9. SOLIDS DRYER AREA
10. DRUM CRUSHER
11. CRUSHED DRUM ROLL-OFF BOXES
12. WARM ROOM
13. DOCK AREA
14. DRUM STORAGE WAREHOUSE (BUILDING C)
15. CORROSIVE WASTE STORAGE AREA
16. DRY SOLIDS GONDOLA
17. LABORATORY SAMPLE STORAGE AREA
18. VEHICLE FUELING TANKS
19. OPEN AREA ALONG SOUTHWEST CORNER
20. BUILDING J
21. BUILDING I
22. CONCRETE VAULT
23. OPEN AREA NORTH OT BUILDING I

SOURCE: FACILITY MAP FOR HYDROCARBON RECYCLERS INC. PREPARED BY REISS & GOODNESS ENGINEERS.

N

NO SCALE

CAD DWG NO:C0000522
DATE:9-24-90 KIN
PLOT SCALE:1=1

FIGURE 2-2
SITE PLAN AND FACILITY LAYOUT
HRI FACILITY
RCRA FACILITY ASSESSMENT

southern border of the property. This runoff then flows south in a manner similar to runoff from the northern and central portions of the property.

Surface water runoff from the property northeast of the HRI facility, on which operations were conducted by the former Service Chemical Supply Company (SCSC), flows north to a drainageway, then flows east to discharge to the Wichita Drainage Canal. The drainageway also collects surface water runoff from the Union Pacific Railroad property which lies north of the HRI facility and former SCSC property.

2.4 SOILS AND GEOLOGY

The surface soils characteristic to the HRI property have been studied and mapped by the U.S. Department of Agriculture (USDA) Soil Conservation Service (SCS). The predominant soil type found at HRI is an urban land, Tabler complex (USDA, 1976). Tabler soil is described by SCS as a fine montmorillinitic thermic complex. From 0 to 9 inches below land surface, the soil is characterized as a silty clay loam (ML or CL by Unified Classification) with low shrink-swell potential and a hydraulic conductivity range between 0.2 and 0.6 (in/hr) [1.41×10^{-4} and 4.23×10^{-4} centimeters per second (cm/s)] (USDA, 1976). Hydraulic conductivity increases to greater than 0.6 in/hr (4.23×10^{-4} cm/sec) and shrink-swell potential is high between nine and sixty inches below land surface (USDA, 1976).

The general stratigraphy of Sedgwick County is detailed in Table 2-2. Rocks that crop out in Sedgwick County are sedimentary in origin and range in age from Permian to Recent. The oldest rocks that crop out in the county are from the Wellington Formation of the Permian System. This portion of the Wellington Formation consists of mostly calcareous gray and blue-grey shale containing several thin beds of impure limestone, and thin beds of gypsum (Lane, 1965). These rocks are the bedrock surface for the eastern two-thirds of the county, which includes the HRI facility. Most of this bedrock is shale, which is easily eroded. Unconsolidated, colluvial, fluvial, and eolian deposits occur over the bedrock.

In the vicinity of the HRI facility, the overlying deposits are characterized by 10 to 15 feet of silt and clay (HWS, 1989) underlain by alluvium and terrace deposits of Wisconsin to Holocene age (primarily fine-to-coarse sand and fine-to-coarse gravel with clayey silt in the upper portion) (Bevans, 1989). These deposits range in depth

Table 2-2. General Section of Geologic Formations * in Sedgwick County, Kansas, and Their Water-Bearing Properties.

	Stratigraphic Units Used in This Report	Maximum Thickness (feet)	Physical Character	Water Supply
Neocene System Pleistocene Series Upper Pleistocene Subseries	Dune sand (Recent)	5	Composed of fine to medium silty sand.	Lies above the water table and does not yield water to wells.
	Alluvium and terrace deposits (Wisconsin to Recent)	45	Composed of fine to coarse sand and fine to very coarse arkosic gravel containing only minor amounts of silt and clay that grade upward into clayey silt. Clay balls up to 1 foot in diameter are common in the sand and gravel.	Constitutes the most widely used aquifer in the county and yields large supplies of very hard water to many wells. Wells yielding up to 2,000 gpm can be developed locally. Adjacent to the Arkansas River the water is too highly mineralized for many uses.
	Colluvium (Illinoian to Recent)	30	A heterogeneous mixture of silt, clay, sand, gravel, and bedrock fragments deposited by slope processes.	Generally above the water table and thus yields no water to wells. Where deposits are thick and contain sand and gravel lenses, wells yielding a few gpm may be possible but would be subject to failure in dry years.
	Loess (Illinoian to Recent)	74	Wind-deposited tan to pink-tan, calcareous silt, containing zones of caliche, containing zones of caliche nodules and some sandy zones.	Generally above water table, but locally the basal part is saturated and the sandy zone may yield some water to wells.
	Terrace deposits (Illinoian)	75	Composed of fine to coarse sand and fine to coarse arkosic gravel that grades upward into sandy silt. Sand and gravel beds locally contain silt and clay lenses, and clay balls up to 1 foot in diameter are common.	Well yields of 500 gpm of good quality water are generally available from the deposits, and locally yields up to 1,000 gpm can be obtained.

Table 2-2. General Section of Geologic Formations * in Sedgwick County, Kansas, and Their Water-Bearing Properties (Continued).

	Stratigraphic Units Used in This Report	Maximum Thickness (feet)	Physical Character	Water Supply
Lower Pleistocene Subseries	Undifferentiated deposits (Nebraskan and Kansan)	157	Composed of light tan to light gray, commonly sandy, silt and clay, and fine to coarse arkosic gravel. Locally contains a lenticular bed of volcanic ash and the Pearlette ash bed of late Kansan age.	Yield small quantities of good quality water to wells in the Arkansas Valley that are screened in multiple porous zones and penetrate the complete section of unconsolidated rocks. The water is highly mineralized locally near the Arkansas River. Where present in the uplands west of the Arkansas Valley, well yields of up to 50 gpm are possible locally.
Pliocene Series	Ogallala Formation	150±	Composed of lenticular beds of calcareous, gray to pink-tan silt and clay, fine to coarse sand, and fine to coarse gravel. The sediments reflect two sources: arkosic sand and gravel beds derived from the west are interfingered in the northern part of the county with sand, and gravel beds composed of gray to tan quartz and ironstone derived from Cretaceous rocks to the north. In subsurface only.	Contributes large supplies of good quality water to many municipal, irrigation, and industrial wells screened in multiple porous zones, and penetrates the complete section of unconsolidated rocks.
Permian System Permian Series	Ninnescah Shale	175±	Composed of alternating beds of brownish-red silty shale and siltstone, and a few thin beds of gray-green silty shale in lower part. Some gypsum is present as thin, cross-cutting and intersecting vein fillings.	Yields small quantities of water to many stock and domestic wells in the western part of the county. Water obtained from the weathered zone in the formation is generally of good quality. Water from deeper zones is generally highly mineralized but usable.

Table 2-2. General Section of Geologic Formations * in Sedgwick County, Kansas, and Their Water-Bearing Properties (Continued).

	Stratigraphic Units Used in This Report	Maximum Thickness (feet)	Physical Character	Water Supply
Permian Series	Wellington Formation	550±	Calcareous gray and blue shale containing several thin beds of impure limestone and thin beds of gypsum and anhydrite. Some beds of maroon and gray-green shale near top of formation. The thick Hutchinson Salt Member is present near the middle of the formation in the western part of the county.	Yields small quantities of highly mineralized water to many stock and domestic wells east of the Arkansas River Valley and in the south-central part of the county. Moderately large water supplies of as much as 350 gpm are available from solution zones in gypsum beds near east county line. The water is highly mineralized but usable.

* As classified by the State Geological Survey of Kansas

SOURCE: "Geohydrology of Sedgwick County, Kansas". Kansas Geological Survey Bulletin 176. December 1965. Table 2, pg. 16.

from 30 to 40 feet below land surface at HRI, with the Wellington Formation bedrock encountered immediately below at an approximate elevation of 1275 feet above msl. The Wellington Formation is approximately 200 feet in thickness in the vicinity of the HRI facility.

2.5 HYDROGEOLOGY

The terrace and alluvium deposits are the most widely used source of ground water in Sedgwick County (Bevans, 1989). In general, the saturated unconsolidated deposits, such as the alluvium and terrace deposits, yield much greater quantities of water than saturated bedrock in Sedgwick County. The fine-grained consolidated nature of the bedrock (weathered Permian shale) hinders the movement of water and limits recharge and yields to wells (Bevans, 1989).

Although the alluvial deposits are stratified and lenticular, sand and gravel beds within the deposits containing ground water are interconnected, and the complete sequence of silt, clay, sand, and gravel beds responds to long-term withdrawals of ground water as a single aquifer (Lane, 1965). The saturated thickness of the unconsolidated Neogene sediments (alluvium and terrace deposits) in the vicinity of the HRI facility are approximately 20 feet.

Precipitation is the primary source of recharge in the Arkansas River Valley with the quantity of recharge at a particular location affected by local conditions. The estimated net average recharge to the unconsolidated deposits in the Arkansas Valley is 20 percent of the annual precipitation (about six inches) in years of normal rainfall (Bevans, 1965). In much of the Arkansas River Valley in areas adjacent to the principal streams, the depth to ground water is less than 10 feet below land surface.

Ground water can also be obtained in small yields from the weathered zone of the Wellington formation, though it may be mineralized where solution has occurred within the weathered shale. In the area underlying the Arkansas River Valley, the Hutchison Salt Member in the middle of the Wellington Formation has been removed by dissolution processes resulting in solution cavities and greatly fractured collapsed beds. This portion of the formation, sometimes referred to as the Wellington aquifer, can yield large quantities of high-concentration saline water (Bevans, 1989).

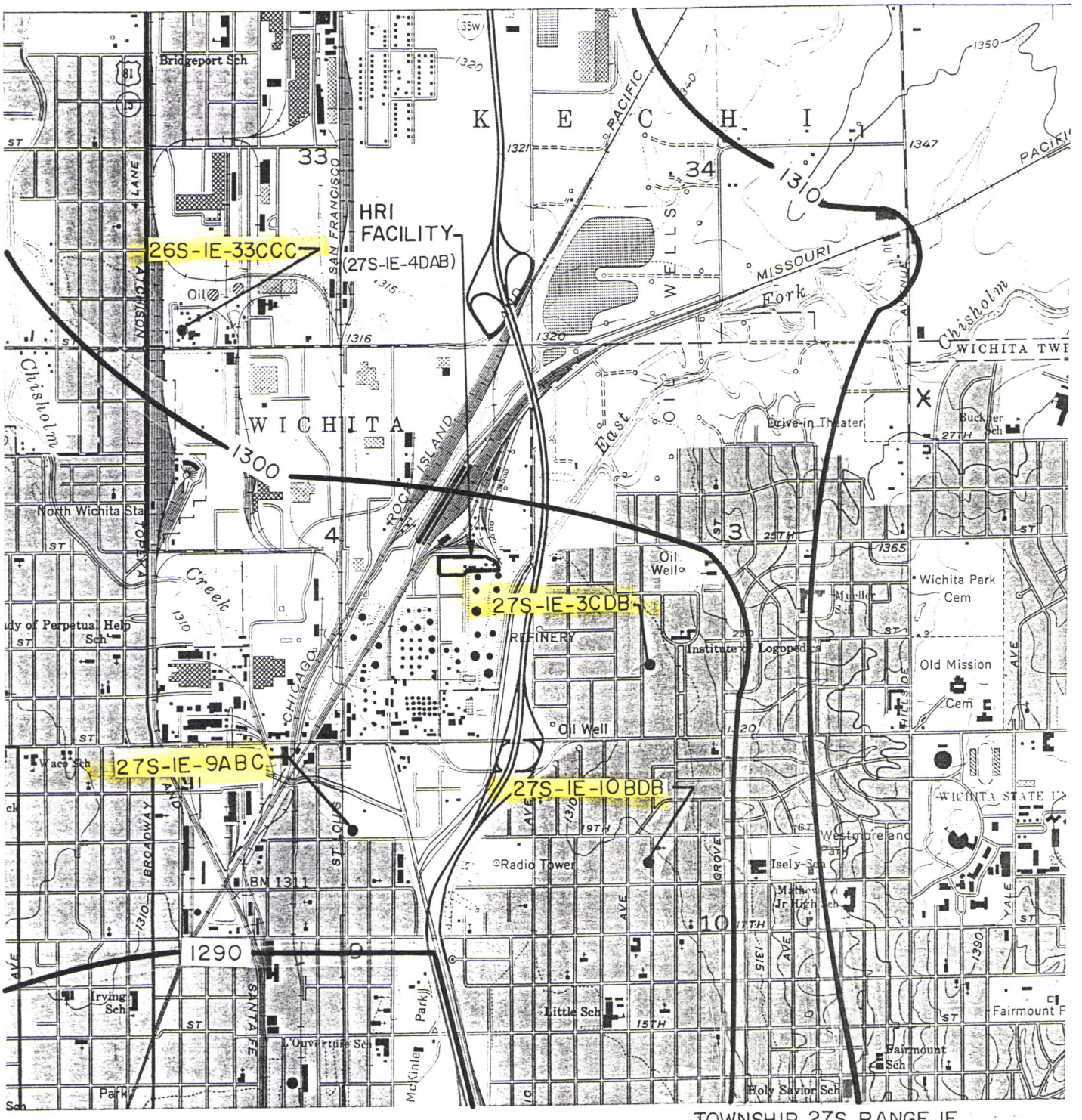
Quantitative hydrogeologic parameters have been estimated from ground water investigations conducted in 1987 and 1988 at industrial properties located in the Wichita North Industrial District (WNID). WNID is an industrial area bounded by Broadway to the west, Interstate 135 to the east, and 37th Street North and 21st Street North to the north and south, respectively. In the area of the HRI facility, transmissivity of the alluvium was estimated as 50,000 gallons per day per foot (6.68 x 10^{-4} m^2/s). At the Derby Refinery, immediately south of the HRI facility, hydraulic conductivities for the silt and clay and Pleistocene alluvium were estimated at 200 and 1000 gallons per day per square foot (9.43 x 10^{-3} and 4.72 x 10^{-2} cm/s), respectively (HWS, 1989).

In the Arkansas Valley, ground water flows primarily down the valley parallel to the river (Bevans, 1989). In the vicinity of the HRI facility, the ground water flow is generally to the south, paralleling the Arkansas River and Chisolm Creek. Tributaries to Chisolm Creek drain the area around HRI. Approximate ground water contours in the vicinity of the HRI facility are shown on Figure 2-3.

2.6 GROUND WATER USAGE AND WATER QUALITY

Identified existing wells within a one mile radius of the HRI facility shown on Figure 2-3 are detailed in Table 2-3. Usage for wells within a one-mile radius includes observation and monitoring of ground water, industrial water usage, and domestic supply which is generally limited to lawn and garden irrigation (Bevans, 1989).

Two wells (labeled as HRI-2 and HRI-3 on Figure 2-4) are utilized for ground water monitoring on the HRI property. Several other wells near or adjacent to the facility used for monitoring and domestic supply are also shown on Figure 2-4. Information on these wells was compiled through the following sources: Lane, 1965; Bevan, 1989; HWS, 1989; and the KDHE Well Inventory System. Well RSC-1, identified on Figure 2-4 as a well on the adjacent property formerly occupied by SCSC, was reportedly utilized for still cooling water during operations previously conducted by the Reid Supply Company (Trombold, 1984). It is unknown whether this well is still accessible or productive. Monitoring wells UPR-1 and UPR-2 on Figure 2-4 were installed by Union Pacific on the same property to monitor ground water quality south of the drainageway which separates these two properties.



SCALE:

1000 0 1000 2000 3000

FEET

N

TOWNSHIP 27S, RANGE IE, SECTION 6

B A C D

WELL NUMBERING CONVENTION

27S-IE-6ACD

NOTE: CONTOUR INTERVAL IS 10 FEET.

SOURCE: U.S. GEOLOGICAL SURVEY, 7.5 MINUTE SERIES (TOPOGRAPHIC) WICHITA EAST QUADRANGLE, KANSAS, 1961 AND "WATER RESOURCES OF SEDGWICK COUNTY, KANSAS", HUGH E. BEVANS, USGS, 1989, PLATE 2.

FIGURE 2-3
EXISTING WELLS AND GROUND WATER CONTOURS FOR THE HRI AREA
HRI FACILITY.
RCRA FACILITY ASSESSMENT

Table 2-3. Record of Selected Existing Wells Located Within a 1-Mile Radius from the HRI Facility.***

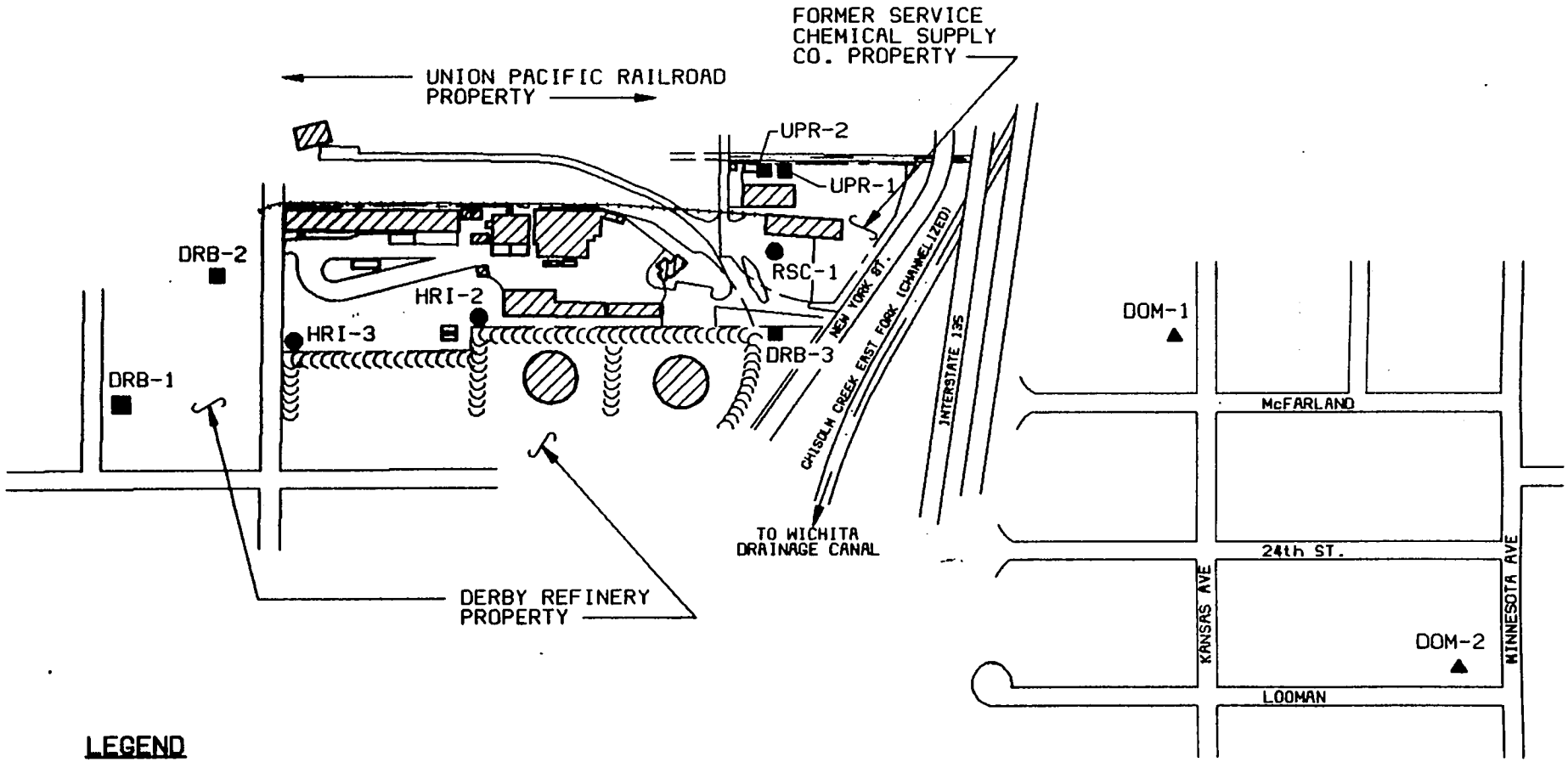
Well No.	Water Use*	Depth of Well (ft.)	Principal Water-Bearing Units: Character of Material	Principal Water-Bearing Units: Geologic Source**	Date of Measurement (m-d-y)	Land Surface Elevation (ft.)	Depth to Ground Water (ft.)	Ground Water Level (ft.above msl)	Remarks
26S-1E-33CCC	O	17.0	Sand	Q1,Pw	12-06-85	1,315	9.0	1,306	--
27S-1E-3CDB	L&G	25.0	Gravel	Qal	12-11-85	1,313	16.1	1,297	Yields 50 gpm
27S-1E-9ABC	L&G	35.0	Sand	Qal	12-12-85	1,305	12.9	1,292	Yields 80 gpm
27S-1E-10BDB	L&G	40.0	Sand	Qal	12-12-85	1,310	16.8	1,293	--

Source: "Water Resources of Sedgwick County, Kansas". U.S. Geological Survey Water-Resources Investigation Report 88-4225. 1989.

* Use: L&G, lawn and garden; O, observation.

** Geologic Source: Qal, alluvium and terrace deposits of Wisconsin to Holocene age; Q1, loess deposits; Pw, Wellington Formation.

*** The coordinate location for the HRI facility is 27S-1E-4DAB, as shown on Figure 2-3.



LEGEND

DRB-1 ■ SHALLOW MONITORING WELL SCREENED AT OR WITHIN 5 FEET OF THE WATER TABLE

HRI-2 ● DEEP MONITORING WELL SCREENED AT OR WITHIN 5 FEET OF THE BASE OF THE AQUIFER

DOM-1 ▲ DOMESTIC WELL, CONSTRUCTION DETAILS UNKNOWN

N

NO SCALE

SOURCE: "WICHITA NORTH INDUSTRIAL DISTRICT, PHASE 1, PART 1 - INITIAL SITE ASSESSMENT". APPENDIX B HWS TECHNOLOGIES INC. FEBRUARY 24, 1989.

CAD DWG NO:C0000529
DATE:08-14-90 AND
PLOT SCALE:1=1

FIGURE 2-4
EXISTING WELLS IN THE VICINTY OF HRI
HRI FACILITY
RCRA FACILITY ASSESSMENT

While the unconsolidated deposits are generally reported to be the best sources of ground water in Sedgwick County for both quality and quantity of water (Bevans, 1989), local areas of saline water in the unconsolidated alluvium and terrace deposits may occur from dissolution of soluble minerals and infiltration of sodium chloride water from the Arkansas River. Iron and manganese concentrations may also be elevated locally in these deposits and has been known to cause well "fouling" immediately south of HRI (HWS, 1989). Volatile organic compounds (VOCs) have been detected in samples collected during ground water investigations conducted by KDHE and in samples collected by local industries in the WNID. VOCs were detected in samples collected from wells screened at the base of the aquifer at the shale interface, and in the overlying saturated unconsolidated deposits.

Within the WNID, VOCs have been reported as the most wide spread contaminant (HWS, 1989). Analytical results for ground water samples collected in 1987 from the wells identified on Figure 2-4 are given in Table 2-4. In addition to the analytical results in Table 2-4, ground water samples have been periodically collected at the HRI facility and analyzed by KDHE, most recently during a remedial investigation (RI) of the WNID site.

In addition to the analytical results provided in Table 2-4, analytical results are available for ground water samples collected from wells HRI-2 and HRI-3 on April 5, 1989 during the WNID RI. Trichloroethethylene and carbon tetrachloride were detected in a ground water sample collected from HRI-2 at concentrations of 1,000 and 550 micrograms per liter (ug/l), respectively. The same compounds were detected in a sample from HRI-3 at concentrations of 3.5 and 14 ug/l, respectively. In addition, the following compounds were also detected in HRI-3: chloroform, 7.7 ug/l; tetrachloroethylene, 1.1 ug/l; and 1,2-dichloroethylene, 0.4 ug/l.

A well identified as an active water well by HRI was sampled by KDHE on August 14, 1985. No VOCs were detected in the sample collected from this well. It is unknown whether this well is the well previously identified for still cooling water supply. A domestic well east of the HRI facility, near Kansas Avenue and McFarland (see Figure 2-4 and Table 2-4), was sampled for VOCs. Analytical results for a sample collected from this well, DOM-1, showed the following contaminants: 1,2 dichloroethane, 14.9 ug/l; toluene, 1.0 ug/l; and xylenes, 2.3 ug/l.

Table 2-4. Analytical Results for Volatile Organic Compound Concentrations in Ground Water Samples Taken From Existing Wells in the Vicinity of HRI.

Volatile Organic:	Detection Limit (ug/l)	Concentration (ug/l): HRI-2** (ug/l)	HRI-3** (ug/l)	RSC-1** (ug/l)	UPR-1* (ug/l)	UPR-2* (ug/l)	DRB-1* (ug/l)	DRB-2* (ug/l)	DRB-3* (ug/l)	DOM-1*** (ug/l)	DOM-2*** (ug/l)
Chloromethane	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	3.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.9	ND	2.6	ND	66.0	27.0	ND	ND	1.2	ND	ND
1,1-Dichloroethene	0.6	ND	26.5	ND	365.0	18.0	ND	ND	191.0	ND	ND
1,1-Dichloroethane	0.5	ND	4.4	ND	86.0	15.0	ND	ND	91.0	ND	ND
trans &/or cis 1,2-Dichloroethene	0.5	ND	76.4	1.7	ND	18.0	ND	ND	53.0	ND	ND
Chloroform	0.5	ND	147.0	17.5	15.0	ND	ND	4.9	1.5	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	59.0	ND	0.6	ND	ND	14.9	ND
1,1,1-Trichloroethane	0.7	ND	122.0	ND	4755.0	97.0	0.6	ND	960.0	ND	ND
Carbon Tetrachloride	0.7	ND	635.0	84.4	ND	ND	ND	17.0	ND	ND	ND
Bromodichloromethane	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.4	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND
trans 1,3-dichloropropene	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.6	8.1	6260.0	16.5	ND	13.0	2.1	ND	450.0	ND	ND
Benzene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis 1,3-Dichloropropene	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.1	ND	504.0	2.6	ND	26.0	ND	ND	78.0	ND	ND
Toluene	0.4	ND	0.9	0.9	190.0	151.0	ND	ND	ND	1.0	ND
Chlorobenzene	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.7	ND	ND	ND	ND	11.0	ND	ND	ND	ND	ND
meta-Xylene	0.6	ND	ND	15.1	ND	ND	ND	ND	ND	2.1	ND
ortho &/or para-Xylene	0.6	ND	ND	23.1	250.0	214.0	ND	ND	ND	2.0	ND
1,3-Dichlorobenzene	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2 &/or 1,4-Dichlorobenzene	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Key - HRI-1 - Monitoring Well Utilized by Hydrocarbon Recyclers, Inc.
DRB-1 - Monitoring Well by Derby Refinery, 1980-1983
UPR-1 - Monitoring Well Installed by Union Pacific on Former SCSC Property
DOM-1 - Domestic Well
ND - Not Detected

* Well screened at or within 5 ft. of the water table
** Well screened within 5 ft. of the base of the aquifer
*** Screened depth unknown

Source: "Wichita North Industrial District, Phase I - Part 1 - Initial Site Assesment". HWS Technologies Inc. Febraury 24, 1989. and KDHE GC/MS Analysis Reports for Ground Water Samples Collected May 21, 1987. Lab Nos. 7037440, 50, & 60.

3.0 FACILITY AND PROCESS DESCRIPTION

This section describes the historical and current facility operations. Documents reviewed to compile the facility history include USEPA and KDHE inspection reports and correspondence, Part A and B permit applications, and facility correspondence. Items covered in this section include historical facility process descriptions, current and past waste handling procedures, channeling of waste materials, and RCRA compliance history.

3.1 PAST FACILITY OPERATION

3.1.1 South Plant

Facility operations subject to RCRA regulation were initiated at the location currently occupied by HRI on June 1, 1979, with the receipt and distribution of industrial chemicals and solvents by the Reid Supply Company (RSC). Part of the RSC facility was located within the Trombold Industrial Park, a parcel of land on which RSC and other firms conducted business (Trombold, 1984). Trombold Industrial Park was composed of the property which is currently occupied by HRI. Prior to 1979, this property was occupied by the Enmar Paint Company. An attempt was made during the PR and VSI to determine the nature of operations conducted by the Enmar Paint Company, though little information was available.

In late 1979, RSC conducted operations subject to RCRA regulation which included distribution of industrial chemicals and receipt of spent solvents, spent electroplating baths, and sludges generated offsite as a service to its customers. Material handling and waste processing operations were conducted on two adjacent parcels of land which comprised the RSC facility. Solvents were reclaimed through settling and distillation (North Plant), blended for fuel supplement for offsite energy recovery (South Plant), or shipped to another RCRA facility for treatment and/or disposal. Process units located at the South Plant included a drum storage warehouse, a drum processing area, a filter and settling tank system, a waste blending system, and vertical storage towers/tanks. In addition to the South Plant located inside Trombold Industrial Park, RSC also maintained a portion of its operations at a North Plant (the property currently identified as that of the former Service Chemical Supply Company

(SCSC) on Figure 2-2). Processes conducted at the North Plant included bulk storage and solvent distillation. This North Plant is described in the following subsection.

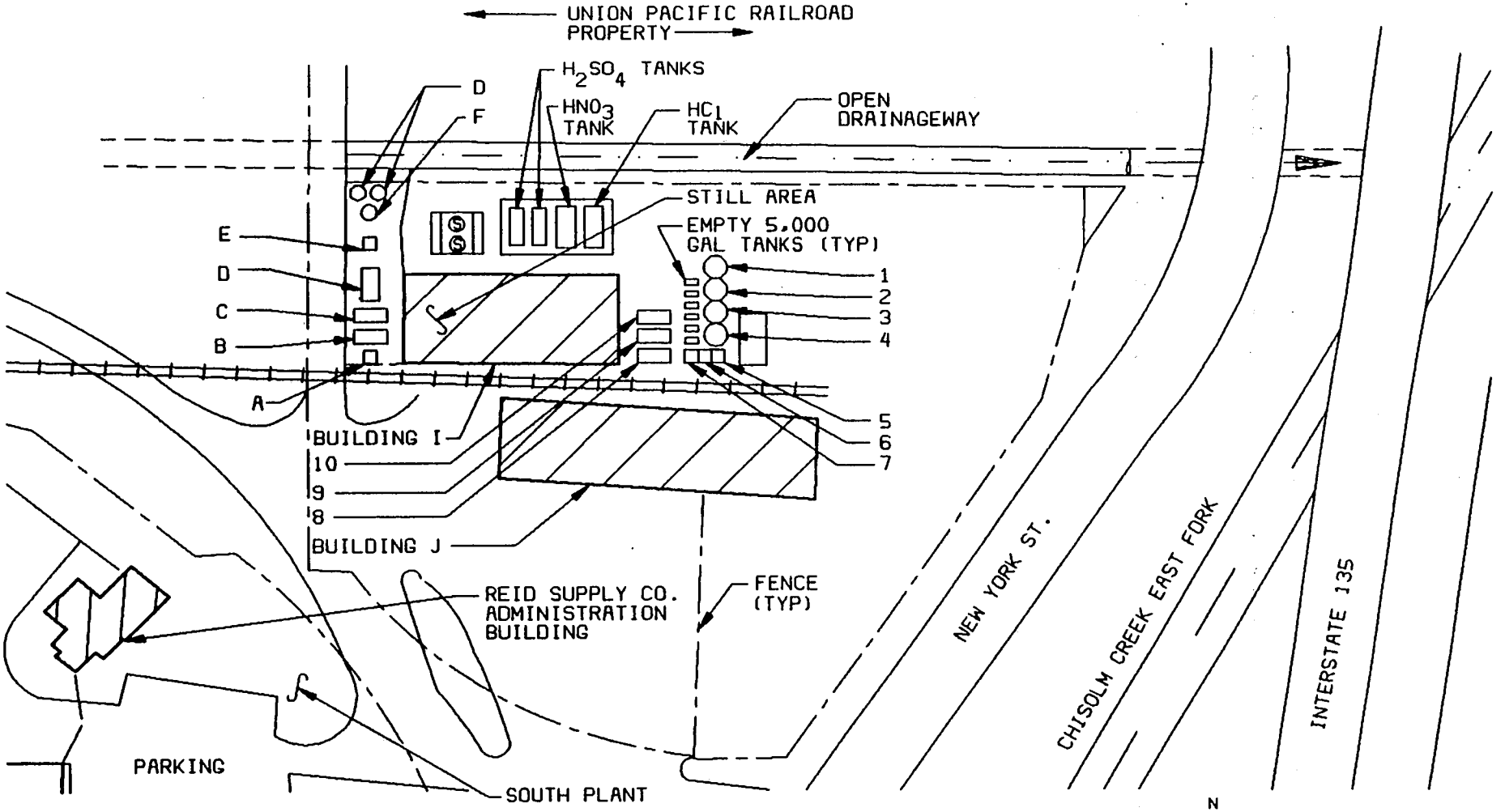
Drummed solvents were handled at the South Plant where free solvent was transferred to one of two 4,500 gallon vertical storage tanks in a processing area and sludge was transferred to reconditioned drums for off-site landfilling. Solvents were transported from the facility in tanker trucks and drums (KDHE, 1981). This processing area was formerly located along the western half of the current HRI Process Area.

A Partial Closure Plan was prepared by HRI in April 1988 for the RSC processing area. The plan, which was submitted to and approved by KDHE, included the decommissioning of the two 4,500-gallon storage tanks, a concrete tank pad and dike around the area, and a tank trailer. The closure was required prior to new construction of the current processing area. The two 4,500-gallon tanks were removed June 27, 1988, and four 7,000-gallon pressurized tanks, one 7,000-gallon ambient pressure tank, and two 21,000-gallon kiln fuel tanks were subsequently installed in the current HRI Process Area. Areas of current and historical waste management at the South Plant are discussed in detail in Section 4.0.

3.1.2 North Plant

As described in the previous subsection, RSC, the former operator of the current HRI facility, also maintained operations at a North Plant located on a parcel of land adjacent to and northeast of the South Plant. On November 13, 1980, facility operations and bulk storage of organic solvents and acids maintained at the RSC North Plant were as shown on Figure 3-1. Solvent reclamation operations reportedly commenced at the North Plant in early 1982 with the installation of a new 100 gpd batch distillation unit and two 1,000 gallon waste storage tanks (KDHE, 1981).

An April 5-6, 1984 USEPA inspection of the RSC facility reported virgin solvents and acids were shipped to the facility in bulk and stored at the North Plant in above ground tanks. As a service to its customers, RSC also accepted spent solvents to either be reclaimed, blended for kiln fuel at the South Plant, or transported to another RCRA facility. A solvent reclaiming system at the North Plant consisted of



LEGEND

1. ACETONE TANK (5,000 GAL)
2. XYLENE TANK (5,000 GAL)
3. TOLUENE TANK (5,000 GAL)
4. ISOPROPYL TANK (5,000 GAL)
5. ACETONE TANK (5,000 GAL)
6. MEK TANK (5,000 GAL)
7. METHANOL TANK (5,000 GAL)
8. DENATURED ALCOHOL TANK (3,000 GAL)
9. MINERAL SPIRITS TANK (3,000 GAL)
10. BUTYL CELLOSOLVE TANK (3,000 GAL)

A. DISTILLATION FEED TANK (110 GAL)
B. REFINED ENAMEL (500 GAL)
C. REFINED LACQUER (500 GAL)
D. CRUDE FEED STOCK (500 GAL)
E. FILTERING TANK (110 GAL)
F. SETTLING TANK (500 GAL)

N

NO SCALE

SOURCE: HAZARDOUS WASTE PERMIT APPLICATION FOR REID SUPPLY COMPANY, JULY 23, 1981.

CAD DWG NO:C0000530
DATE:08-14-90 AND
PLOT SCALE:1=1

FIGURE 3-1
REID SUPPLY COMPANY
NORTH PLANT - 7/26/80
HRI FACILITY
RCRA FACILITY ASSESSMENT

a continuous-feed steam jacket still. A still condenser utilized cooling water supplied on a "once through" basis. This cooling water was discharged to a concrete basin located in the northwest corner of the North Plant (see Figure 2-2). This basin was reported as having no outlet discharge. During the April 1984 USEPA inspection, a drum was observed floating in this basin. Numerous drums were also observed to be stored at the rear of the North Plant (USEPA, 1984a).

Hazardous waste operations were reported to have ceased at the North Plant in mid-1985 (CSI, 1985). In October 1986, RSC sold its operations at the North Plant to the Service Chemical Supply Company. Charles and David Trombold, the owners of RSC, retained title to the property and leased space to SCSC (VSI, 1990).

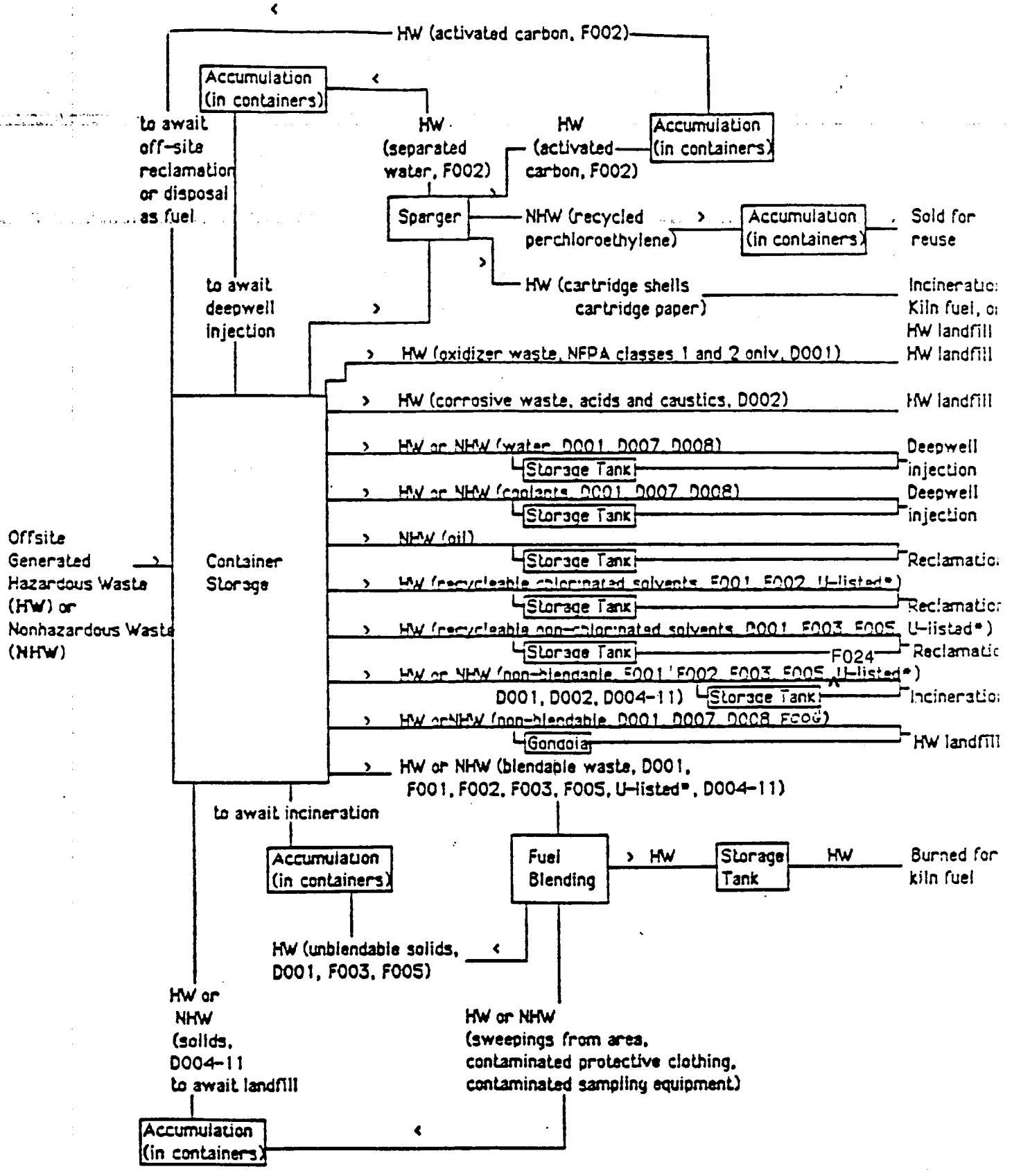
During a June 1988 KDHE inspection, HRI informed KDHE personnel that the SCSC was a separate company from HRI. Primary operations at SCSC involved acid repackaging. Sulfuric and nitric acid was noted to be stored in elevated tanks behind Building I. The acids were transferred through piping into Building I for repackaging in other containers. At the time of the VSI, SCSC was in the process of dismantling equipment and discontinuing operations at the North Plant. Areas of current and historical waste management at the North Plant are discussed in detail in Section 4.0.

3.2 CURRENT FACILITY OPERATION

The HRI Wichita, Kansas, facility currently operates as a RCRA Interim Status facility, conducting the following regulated waste activities: treater/storer/disposer, transporter, generator, and marketer (as a hazardous waste fuel generator) to a burner for energy recovery. HRI operates as a hazardous and non-hazardous waste handler and a processor for offsite generators of chlorinated and nonchlorinated solvents; paint and lacquer wastes; waste oils, greases, and waxes; flammable and corrosive wastes; and spent dry cleaning wastes. Wastes received are either reclaimed by HRI or directed to an appropriate RCRA facility. The flow of wastes through the HRI facility is outlined in Figure 3-2.

Wastes are primarily transported to the HRI facility by the generator or a licensed hauler contracted by the generator in drums or tanker trucks. HRI does operate one 30-drum capacity van, owned by U.S. Pollution Control Inc. (USPCI), for waste transport. Wastes picked up by HRI are limited to waste from dry cleaners and

FIGURE 3-2. Waste Channeling Through HRI Facility



* Only U-listed solvents that correspond to FOO1, FOO2, F003, F005, U044, U045 and U077 are accepted.

Source: "RCRA Compliance Inspection Report - Hydrocarbon Recyclers, Inc.". Kansas Department of Healt and Environment. June 21, 1989.

other select clients (VSI, 1990). Upon entering the facility, the shipment is verified for receipt and a check is made to see whether a profile is on hand for the waste. Drums are unloaded by forklift in the dock area of Building C and held in a covered exterior drum staging area along the south side of the warehouse. According to the June 3, 1989 inspection report, drums are held in this area no more than two days. Total drum staging capacity in this area is one hundred 55-gallon drums. Here, the drums are counted and labels are checked against manifests. The only nonmanifested wastes accepted are nonhazardous wastes, although an HRI tracking form is kept for all wastes accepted.

Drums are opened in the diked staging area so that composite samples may be taken. All drum contents are analyzed for specific gravity, pH, and solids content. Analyses are performed at the HRI facility at the facility's laboratory in Building A. Based on analytical results, drums are segregated and placed in designated storage areas in Building C or Building B. Total allowable drum storage for Building C is one thousand seven hundred ten 55-gallon drums, while the total for Building B is between four to five hundred 55-gallon drums, depending upon the total gallons of waste stored at the facility. Based on the analysis of a drums contents, wastes with similar specific gravities are combined for waste processing. Based on the pH value of a drum's contents, wastes are placed in diked segregated areas of Building C or Building B. In addition to drum storage in Building C, the dock area, and Building B, KDHE currently allows container storage under Interim Status in the following areas to facilitate processing: the sparging and Hot Room area, the north portion of the Process Area, and the truck loading/unloading bay (KDHE, 1989b). If a waste is rejected from further processing or handling based on analytical results of the drum's contents, it remains in the staging area outside Building C to await return transport to the generator.

Wastes are also analyzed for kiln fuel capacity (BTU value) before waste blending. HRI maintains a calorimeter, for testing flash point, and two gas chromatographs. Testing to determine if a waste is a corrosive solid is performed by measuring the pH of water extracted from a leached solid. Following analysis, samples may be stored in a storeroom in Building A for a maximum of six months. After this time, the waste samples are processed through the facility, accordingly.

As mentioned previously, drums which are not immediately processed are stored in either Building C or Building B (when segregation is required for corrosive wastes). There are three diked areas in Building B for storage of caustics and acids. A nondiked area in Building B is used for storage of solids for incineration and highly viscous wastes which will be transported to the Hot Room. While the total allowable storage for Building C is one thousand seven hundred ten 55-gallon drums, HRI personnel reported during the VSI that typical drum storage is five hundred 55-gallon drums in January and one thousand four hundred 55-gallon drums in June. The total facility limit of one thousand seven hundred ten 55-gallon drums is an equivalent value, with the following container sizes typically handled by HRI: 55-gallon steel and stainless steel drums, 30-gallon plastic drums (waste for incineration), 16-gallon plastic drums (dry cleaner waste), and 15-gallon plastic drums. Bagged dry cleaning waste, primarily perchloroethylene canisters and filters, and bagged rags are also accepted by HRI.

In June 1989, HRI reported 85 percent of the waste received is blended as kiln fuel. The remaining 15 percent is shipped out directly to other RCRA facilities or reclaimed at the facility (perchloroethylene from dry cleaning wastes). The kiln fuel blending area is located in the north portion of the Process Area (Building K). Waste blending and solids removal operations are performed within a diked concrete pad area. Blended wastes are pumped by means of a drum manifold to one of two 21,000-gallon kiln fuel storage tanks for offsite energy recovery. In addition to the two 21,000-gallon kiln fuel storage tanks, wastes can be pumped into six 7,000-gallon additional storage tanks in the Process Area. The contents of each tank are discussed in subsection 4.1 One 500-gallon surge tank is used at the southeast corner of the Process Area for storage of virgin No. 2 diesel fuel.

While the majority of wastes transported to HRI are received in drums, some wastes are received by HRI in tanker trucks. Tanker trucks offload/onload waste from a truck bay along the south end of the Process Area. Pumping is performed through a manifold adjacent to the truck bay. Back pressure is maintained in the tank lines for offloading waste and individual tanks can be pressurized to 15 pounds per square inch (psi) for onloading wastes to tanker trucks.

Emptied drums are rinsed with Stoddard solvent and are then manually rolled on a conveyor from the Process Area to an area at the southeast corner of Building K. About 25 percent of the drums processed through HRI are crushed. This includes all deteriorated and DOT 17E drums. The majority of empty drums are reconditioned and retained by HRI or brokered out for reuse. Crushed drums are held in two roll off boxes south of Building D to be sold to a metal recycler.

HRI operates three steam-pressurized spargers for "steam stripping" perchloroethylene from dry cleaning canisters and filters. The sparging area is located in a diked room at the southwest corner of Building D. Condensed steam from the sparging units is transferred to a surge tank for handling as perchloroethylene-contaminated wastewater. New sparging equipment was expected to be installed in late June 1990 which would recycle phase separation water generated during condensation. Adjacent to the spargers is a Hot Room, an enclosed room maintained at 150°F. This room is utilized to lower the viscosity of certain wastes, such as waxes and greases, prior to waste blending.

Other areas of Building D are used for tank storage, drummed nonregulated waste storage, empty corrosives drum storage, and operation of an air dryer, a boiler, and a compressor. Eleven storage tanks located in the northwestern portion of Building D are utilized for storage of hazardous and nonhazardous wastes. The contents of each tank are discussed in subsection 4.2. During the VSI, HRI personnel stated a solids dryer for distillation recovery of solvents from still bottoms would be installed in Building D in July 1990.

A "gondola" located immediately south of the dock area for Building C is utilized for disposal of dry solids. During the VSI, HRI personnel stated the "gondola" was utilized for accumulation of non-land-banned solids, specifically metal-contaminated soil, for landfill disposal.

HRI operates a maintenance shop, Building H, in the central portion of the property. Welding and minor repair operations are performed in this area. Immediately south of Building H and west of Building B are two 500-gallon above ground storage tanks used for vehicle fueling.

Operations conducted by the Service Chemical Supply Company on the property northeast of the current HRI facility had ceased as of the time of the VSI. This property, formerly the RSC North Plant, and the out-of-service equipment on the property were in the process of being decommissioned at the time of the VSI. Four above ground storage tanks in the northeast corner of the property were being cut up with blow torches by SCSC during the VSI. Building I, which had been used by SCSC for acid repackaging and handling of flammable materials, was being cleaned by HRI personnel during the VSI. An abandoned carbon steel still, previously utilized by RSC, was being stored in an area separated by a dike in the west portion of Building I. All equipment in the SCSC acid repackaging area, located in the northcentral portion of Building I, had been removed. An empty 500-gallon above ground acid storage tank and associated piping into the acid repackaging area remained, located immediately north of Building I. The eastern half of Building I, previously utilized by SCSC for storage of virgin dry chemicals and acid storage, was empty at the time the VSI was conducted.

Building J, previously utilized for storage of virgin and recycled products and office space by SCSC, was being utilized as storage space by HRI at the time of the VSI. Lab-packed drums containing household wastes, primarily paint wastes, were stored in the eastern portion of Building J. Open 55-gallon drums holding empty household waste containers, covered 55-gallon drums holding reclaimed household waste, and bagged empty containers were in the central and western portions of Building J.

HRI currently has plans on file with KDHE for upgrading various areas of the facility. All areas described in this subsection are discussed in detail in Section 4.0.

3.3 REGULATORY HISTORY

The following section discusses the regulatory history pertaining to historic and recent operations conducted by HRI and the company's predecessors. HRI does not maintain state or federal permits for surface water discharges or air emission sources for current waste handling activities.

The following is a chronological summary of RCRA-related issues which have occurred following initial notification of hazardous waste activity in 1980 through continued Interim Status for the HRI facility:

Date	Description
June 26, 1980	RSC filed a Notification of Hazardous Waste Activity with USEPA, reporting as a transporter and a treatment, storage, and disposal (TSD) facility.
November 13, 1980	RSC followed up notification with the submittal of a General Information form and a Hazardous Waste Permit Application.
June 8, 1981	RSC submitted a request to USEPA to amend the facility's notification status to include generator.
July 28, 1981	RSC submitted a revised Part A permit application to report the replacement of an existing 110-gallon per day (gpd) distillation unit and two storage tanks at the North Plant with a new 100 gpd batch distillation unit and two 1,000 gallon waste storage tanks.
September 2, 1981	The first RCRA compliance inspection of the RSC facility was conducted by KDHE. Program deficiencies were noted during the inspection. Drums storage above the KDHE allowable limit was observed at the facility, with some drums deteriorated.
October 5, 1981	A follow-up to the September 2, 1981 inspection was conducted. This investigation reported solvent reclamation operations had not yet begun at the facility but would commence in early 1982 with the installation of the new still. This inspection report also noted efforts were underway to reduce the total number of drums stored at the facility.
June 25, 1982	An inspection of RSC manifest files was conducted by KDHE during which numerous deficiencies were noted.
August 3, 1982	KDHE conducted a compliance inspection of the RSC facility. Deficiencies similar to those noted previously were noted as a result of this inspection.
August 25, 1982	A KDHE letter to RSC outlined program deficiencies and requested compliance within two months of receipt of the letter.

September 27, 1982	USEPA and KDHE requested submittal of a RCRA Part B Hazardous Waste Permit Application for the facility.
November 9, 1982	Prior to submitting a Part B application, RSC submitted an amended Part A application.
November 23, 1982	RSC submitted a revised notification form. Technical review of the revised Part A permit application was completed on this same date at which time the facility was authorized to operate as an Interim Status RCRA facility.
March 30, 1983	A Part B application for the RSC facility was received by USEPA and KDHE. The application was found to be incomplete and additional information was requested.
May 17, 1983	USEPA and KDHE completed a joint preliminary review of the facility's Part B submittal and forwarded comments to RSC.
February 3, 1984	A Part B Permit Application completeness comment letter was compiled by USEPA and forwarded to RSC. A Letter of Warning was transmitted by USEPA to RSC requesting receipt of supplemental Part B information by March 28, 1984.
March 28, 1984	RSC provided a response to the February 3, 1984 USEPA letter.
April 5-6, 1984	A RCRA compliance evaluation inspection (CEI) of the R SC facility was conducted. At the time of this inspection, RSC's primary operation was the distribution of industrial chemicals and solvents. Approximately 1,300 hazardous waste containers, some leaking or damaged, were found to be stored at the RSC facility. Containers of hazardous waste were noted as being stored in four general areas: in the drum storage warehouse, in front of the drum storage warehouse, at the drum processing area, and at the rear of the north plant. A photograph taken during the investigation noted an empty drum storage area in an open area in the southern portion of the South Plant. In addition, incompatible materials were found to be stored in similar areas of the RSC facility. A notice of violation (NOV)

	pursuant to requirements of RCRA was prepared by USEPA during the inspection and transmitted to KDHE.
April 11, 1984	A NOV letter was issued to RSC.
May 24, 1984	USEPA submitted a letter to KDHE which outlined comments on the Part B permit application. The letter notified the state that RSC must be in compliance with Interim Status standards and 40 CFR Part 264 permitting standards in order to continue Interim Status and in order for USEPA to issue the Part B Permit for the facility.
June 1, 1984	An Administrative Order was issued to RSC by KDHE assessing a $7,000.00 penalty for violation of Subtitle C of RCRA.
June 15, 1984	KDHE issued a Notice of Deficiency/Letter of Warning (NOD/LOW) to RSC detailing USEPA and KDHE comments to a March 28, 1984, response submitted by RSC.
July 9, 1984	RSC responded to the NOD/LOW addressing additional information for the facility's Part A and Part B applications.
July 16, 1984	The first of two follow-ups inspections to the April 1984 USEPA CEI were conducted by representatives of KDHE (lead) and USEPA. This inspection was conducted to determine the facility's compliance with the Administrative Order. Inspectors stated the conditions at the facility had improved from the previous inspection with drum inventory reduced below 500. During the inspection, a mound of tires was observed in the open area of the facility south of the drum storage warehouse.
August 16, 1984	The second CEI follow-up inspection was conducted.
September 4, 1984	KDHE issued a letter to RSC stating the facility, at the time of the most recent inspection, was found to be in substantial compliance.
October 30, 1984	A RCRA Part B application inspection was conducted by KDHE and USEPA jointly. At the time of the inspection, RSC had gained Interim Status for the container storage area (five hundred 55-gallon drums) and two above ground storage

tanks (two 4,500-gallon vertical tanks). Information was solicited in order to complete the facility's Part B application with current material up to the time of this inspection. The primary objective was inspection for 40 CFR Part 264 compliance for the facility's container storage area and above ground storage tanks. USEPA recommended KDHE should proceed with processing the Part B application contingent upon RSC completing the recommendations outlined by USEPA as a result of this most recent inspection.

November 6, 1984 — KDHE transmitted a Letter of Warning to RSC following a USEPA Interim Status compliance/Part B application inspection of the facility. The letter detailed USEPA and KDHE concerns noted as a result of reviewing the most recent Part B application submittal and incorporated the results of the inspection.

November 17, 1984 — Following a conversation KDHE conducted with RSC, a letter was transmitted requesting clarification of unresolved items in the Part B application.

December 5, 1984 — RSC transmitted a completed copy of the Part B application to USEPA and a letter addressing unresolved items to KDHE.

September 12, 1985 — A RCRA follow-up inspection of the RSC facility was conducted by KDHE to determine compliance with the terms outlined in the July 9, 1985, KDHE letter to RSC.

October 1, 1985 — Following a second RCRA follow-up inspection on this date, the facility was found to be in substantial compliance with state and federal hazardous waste regulations.

September 27, 1985 — At the request of KDHE, an amended hazardous waste notification form and a revised Part A permit application were completed by the facility and submitted to KDHE. These forms were submitted in order to report the name change for the facility from RSC to Conservation Services, Inc. (CSI). The reason provided by CSI for the name change was to separate hazardous waste operations from the rest of RSC's operations in order to obtain RCRA-required insurance coverage. CSI conducted all operations on the RSC South Plant property.

February 5, 1986	CSI filed an amended hazardous waste notification form with KDHE. CSI also reported under this subsequent notification as being a hazardous waste fuel generator marketing to a burner.
September 18, 1986	A RCRA compliance inspection of the CSI facility was conducted by KDHE.
October 20, 1986	A letter was transmitted to CSI by KDHE outlining items not in compliance with regulatory requirements. The inspection noted several damaged drums and an excess number of total drums stored at the facility.
October 13, 1986	A follow-up inspection found the number of drums at the facility to be within the five hundred 55-gallon drum limit allowed under Interim Status amount. A letter was transmitted by CSI to its customers following receipt of the KDHE letter outlining quality standards for the condition of drums received by CSI.
July 2, 1987	A RCRA compliance inspection of the CSI facility was conducted by KDHE. The inspection noted 10 to 20 excessively rusted and dented drums located in the staging area in front of Building C. There were also 20 drums containing unknown materials stored north of Building J, several of which were deteriorated, which had been generated from SCSC operations. In this inspection report, SCSC was identified as a sister company of CSI. Distillation operations were reported to have ceased on the former RSC North Plant property.
August 4, 1987	As a result of the July 1987 KDHE inspection, a letter was transmitted to CSI by KDHE outlining items not in compliance with regulatory requirements.
October 30, 1987	A revised hazardous waste notification form and Part A permit application form were submitted in order to report the name change for the facility from Conservation Services, Inc. to Hydrocarbon Recyclers, Inc. (HRI), which had recently acquired CSI.

November 20, 1987	A meeting was held between HRI and KDHE to discuss modifications to the facility. HRI assumed operation of the current facility under Interim Status.
June 28, 1988	A RCRA compliance inspection of the HRI facility was conducted by KDHE. The inspection noted a new closure plan would need to be prepared for the Part B permit application for the new processing area. The report noted drum storage allowed by KDHE had been increased to one thousand seven hundred ten 55-gallon drums for storage in Building C, with an additional four to five hundred 55-gallon drums allowed for storage in Building B. No waste drums were handled or stored at the SCSC area at the time of this inspection. An out-of-service distillation unit had been removed from Building I and placed in the open area south of Building C. At the time of the inspection, there was some evidence of acid spillage around above ground storage tanks behind Building I, with runoff to the drainageway north of the SCSC property.
August 20, 1988	A letter was transmitted to HRI by KDHE outlining items not in compliance with regulatory requirements.
May 5, 1989	KDHE approved revisions to HRI's Part A permit application, increasing total facility container storage to two thousand four hundred ten 55-gallon drums and decreasing total facility tank storage to 141,000 gallons.
June 21, 1989	A RCRA compliance inspection of the HRI facility was conducted by KDHE. The inspection noted five drums with small leaks, and six deteriorated drums in Building C.
July 3, 1989	A letter was transmitted to HRI by KDHE outlining items not in compliance with regulatory requirements.

4.0 SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

Fifteen solid waste management units (SWMUs) and eight areas of concern have been identified at the HRI facility. A list of SWMUs and areas of concern is presented in Table 4-1. Individual areas containing several storage tanks in a common location or units operated in combined process have been identified as a single SWMU in Section 4.0. The location of each SWMU and areas of concern can be found on Figure 2-2. The numbering system used to identify each SWMU or area of concern as shown on Figure 2-2 and within this section is not intended to indicate priority. For each SWMU or area of concern, waste and unit characteristics, history of releases, and potential for release are discussed in the following subsections.

4.1 PROCESS AREA STORAGE TANKS

4.1.1 Unit Characteristics

The Process Area (Process/Waste Blending Area shown on Figure 2-2) is comprised of a tank storage area, southern half, and a waste blending area, northern half. Building K, which covers the Process Area and storage tanks, was constructed in May 1989. Since the tanks are located in a common containment area, the eight hazardous waste storage tanks in the Process Area are considered as a single SWMU.

All eight waste storage tanks are constructed of carbon steel. The entire storage tank area is contained in a diked portion of the Process Area. Five of the eight tanks are 7,000-gallon tanks, pressurized to a maximum pressure of 15 psi for offloading wastes from the tanks to transport tanker trucks. Two 21,000-gallon tanks for blendable wastes and a 7,000 gallon tank for nonchlorinated solvents are operated at ambient pressure. A 500 gallon surge tank is also utilized in the Process Area for storage of virgin No. 2 diesel fuel which supplies a drum dumper device in the northern portion of the Process Area (VSI, 1990).

The eight waste storage tanks were installed in June 1988 in conjunction with the closure of a previous tank storage area, previously located in the northeastern corner of the current process area. A partial closure plan was prepared by HRI in April 1988 and approved by KDHE on June 21, 1988. The closure plan was prepared for

TABLE 4-1. LIST OF SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

Solid Waste Management Units

- Process Area Storage Tanks
- Waste Blending and Drum Processing Area
- Process Area Truck Bay
- Sparging Area
- Hot Room
- Elevated Tank Storage Area
- Nonregulated Waste Storage Area
- Drum Crusher
- Crushed Drum Roll-Off Boxes
- Warm Room
- Dock Area
- Drum Storage Warehouse (Building C)
- Corrosive Waste Storage Area
- Dry Solids Gondola
- Open Area Along the Southwest Corner

Areas of Concern

- Former Drum Processing Area > Should be a SWMU.
- Solids Dryer Area SWMU
- Laboratory Sample Storage Area
- Vehicle Fueling Tanks
- Building J SWMU
- Building I > should be SWMUs in this area
- Concrete Vault
- Open Area North of Building I > SWMU

the removal of two 4,500-gallon vertical storage tanks for blendable wastes and the contents of these tanks, the underlying concrete pad, and a 3,000-gallon tank trailer. Theses blendable waste tanks were previously located in the northeast corner of the current Process Area. This area of concern is discussed in subsection 4.3.

The contents of each Process Area storage tank can be transferred to tankers in the truck bay area through a pipe manifold adjacent to the truck bay. The entire tank storage portion of the Process Area is diked and separated from the drum processing area by a masonry block wall. All tanks are two years old and inspected annually by ultrasonic thickness testing and by periodic visual inspection when tanks are emptied (VSI,1990). Photographs of this SWMU are included on page B-4 of Appendix.

4.1.2 Waste Characteristics

Wastes stored in the eight Process Area storage tanks are classified as hazardous and exhibit the characteristic of ignitability as defined by 40 CFR 261.21. The tanks are utilized for handling each of the following wastestreams:

(1) hazardous and flammable wastewater (D001, D007, D008) for offsite deepwell injection,

(2) waste nonchlorinated solvents (D001, F003, F005), typically xylene and toluene, for offsite recycling,

(3) waste paint solvents and sludges (D001, F003, F005); solvents are reclaimed for offsite recycling; unblendable solids are removed and accumulated for offsite energy recovery,

(4) waste lacquer thinner (F003), containing acetone, for offsite recycling,

(5) waste ketones for offsite recycling,

(6) and (7) (two tanks) blendable wastes (D001; D004-D011; F001; F002; F003; F005; U-listed solvents corresponding to F001, F002, F003, and F005; U044; U045; U077) blended as kiln fuel for offsite energy recovery, and

(8) nonblendable low-BTU wastes (D001; D002; D004-D011; F001; F002; F003; F005; F024; U-listed solvents corresponding to F001, F002, F003, and F005; U044; U045; U077) for offsite commercial incineration.

HRI currently utilizes Chemical Resources, Inc. of Tulsa, Oklahoma, a RCRA facility operating under a special exemption, for deepwell injection of hazardous and flammable wastewater. HRI has recently received approval for deepwell injection with Gibraltar, a RCRA facility operating under a no migration petition, in Winona, Texas (VSI, 1990).

On June 1, 1990, USEPA promulgated regulations establishing effective dates prohibiting land disposal by injection of listed wastes. According to these provisions, D001 and D008 wastes are prohibited effective August 8, 1990 from underground injection at off-site injection facilities, per 40 CFR 148.16(c). Wastewaters listed as D007 (based on a characteristic alone) are prohibited effective May 8, 1992 from underground injection at off-site injection facilities, per 40 CFR 148.16(f).

4.1.3 History of Releases

The current eight storage tanks in the Process Area were purchased new. The tanks are equipped with spill and overfill controls and provided with secondary containment. A trench drain which underlies the tanks is interconnected with a sump in the truck bay. Therefore, any releases in the tank storage area would be collected by this system. No releases have been documented from the Process Area storage tanks. No evidence of past release from the tank structures were noted during the VSI.

4.1.4 Potential for Release

Given the young age of the tanks, the sound construction, safety controls in place in the Process Area, and the performance of annual ultrasonic thickness testing, the potential for release from the current storage tanks is low. Wastes are "fingerprinted" and segregated by specific gravity and pH prior to transfer to individual tanks and no corrosive wastes are placed in tank storage (VSI, 1990). Since wastes are pumped through a piping manifold to and from each individual tank, releases could potentially occur within the network of piping servicing the tanks. Any pipe release would also be retained by the collection and containment system of the Process Area.

4.2 WASTE BLENDING AND DRUM PROCESSING AREA

4.2.1 Unit Characteristics

The current waste blending and drum processing area is located in the northern portion of the Process Area, Building K (see Figure 2-2). The northern portion of the Process Area is utilized for drum processing and kiln fuel blending of wastes with heat content values greater than 6,000 BTU/lb (Region VII standard). Located in this area is a drum solids removal device, a waste blender, a drum emptier, and a drum washer. Drums may be processed in this area by directly pumping the contents of a container to a storage tank in the Process Area through a drum manifold.

Total drum storage in the Process Area allowed by KDHE for waste processing is thirty-six 55-gallon drums (KDHE, 1989b). Drums are moved through the drum processing area by means of a gravity roller system. The waste blending and drum processing area is categorized as a single SWMU for the purpose of this report.

The waste blending and drum processing area is ramped and constructed approximately four feet above grade. Containers are brought into the drum processing area with a forklift and loaded on a gravity conveyor. Hydraulically-operated equipment used in waste blending include a solids removal device and waste mixer, followed by a drum emptier and drum washer. Blended wastes are dumped into a catch tank from which wastes are pumped through a drum manifold to one of the two 21,000-gallon kiln fuel storage tanks in the southern portion of the Process Area. Wastes which are not blended for kiln fuel may be pumped directly from drums to other storage tanks in the Process Area or to storage tanks in Building D (VSI, 1990).

The waste blending and drum processing area is diked and equipped with a central sump. Pipe channels underlie the area and pass to the main sump in the truck bay at the south end of the Process Area (VSI, 1990). The concrete pad which contains the entire area is power washed as needed to clean wastes which may deposit on the pad. This F-listed wastewater is contained in the central sump to be pumped to one of two 5,000-gallon storage tanks in Building D.

4.2.2 Waste Characteristics

Wastes handled in this area include blendable, and nonblendable, hazardous and flammable wastes such as solvents, paint wastes, and sludges (D001; D002; D004-D011; F001, F002, F003, F005; F024; U044; U045; and U-listed solvents corresponding to F001, F002, F003, and F005). All wastes handled in the drum processing area are containerized. Emptied drums are rinsed with Stoddard solvent before they are moved to the east side of the Process Area. A sump which collects wastewaters from the drum processing area is pumped out as needed. This liquid is handled as F-listed wastewater and pumped to one of two storage tanks in Building D (VSI, 1990).

4.2.3 History of Releases

The current Process Area was constructed following closure. During a June 21, 1989, inspection, container storage in the drum processing area was noted as exceeding (by 400 gallons) the thirty-six 55-gallon drums allowed by KDHE. During the VSI, drums stored within the drum processing area were noted to be within the allowable number.

4.2.4 Potential for Release

The containment structures provided for the waste blending and drum processing area would retain any wastes which might be spilled during waste blending and drum processing. Forklifts moving drums into this area are equipped with a drum handling implement. Spilled wastes and wastewaters generated from operations in this area would be contained in the central sump. No corrosive wastes are handled in the waste blending and drum processing area. The potential for waste release from this area is low.

4.3 FORMER DRUM PROCESSING AREA

4.3.1 Unit Characteristics

An April 1984 USEPA inspection of RSC reported spent nonchlorinated solvents were pumped from drums in the former drum processing area though a pressure filter (USEPA, 1984a). Solvent was transferred from a filter system to a 1,000-gallon capacity elevated settling tank where solvent was allowed to settle for several hours. Settled solids and water were drained from the tank and solvent was pumped to a

3,000-gallon transport tank. This spent solvent was then transported to the RSC North Plant for distillation.

According to the same report, various hazardous wastes were blended for offsite energy recovery in an area located in the southwest corner of the former drum processing area. Wastes which were blended included still bottoms generated onsite, nonreclaimable solvents, solids and water removed from the settling tank, and solids removed from the filter system. After spent solvent was pumped from each drum, the drums were deheaded and remaining solids and residue was removed by hand. These solids were repacked in drums for disposal.

Prior to construction of the Process Area facilities in 1988, waste blending was performed on a concrete pad directly south of the former blendable waste storage tanks. This former blending area would currently correspond to the southeast portion of Building K. Drum processing was performed in a fenced area which included the current Process Area and the current elevated storage tank area which adjoins Building D on the west. Building D was occupied by others until some time in 1984 (USEPA, 1984b).

As a part of the partial closure plan, solids and sludge were removed from the 4,500-gallon tanks and drummed for offsite energy recovery or incineration. The cleaned tanks were disposed as scrap metal while associated piping was cleaned for reuse with the new tanks. The concrete pad and diked area were removed for hazardous waste landfill disposal. Following removal of the pad, four soil core samples were collected for chemical analysis (HRI, 1988).

4.3.2 Waste Characteristics

Wastes which were handled in the former drum processing area included waste solvents, compatible waste solids, and still bottoms, including still bottoms generated during distillation at the RSC North Plant. These wastestreams were blended as kiln fuel on a concrete pad in this area. Most of the waste solids handled were settled paint solids separated from drummed waste paint solvents. Chlorinated waste solvents were blended with other wastestreams to the percentage allowed under kiln fuel specifications (Trombold, 1984).

In addition to blendable wastes handled in the former drum processing area, nonblendable waste solids, typically waste paint solids, were also handled. The nonblendable solids were those solids which would not blend into waste solvents with the blending equipment used. RSC reported that special grinding equipment would be utilized to blend these solids some time after early 1985 (Trombold, 1984).

4.3.3 History of Release

The two 4,500-gallon vertical storage tanks previously utilized for storage of blendable wastes were used at the time of installation. These tanks were to be annually tested for minimum shell thickness and entry inspected every five years. Ultrasonic thickness testing of the tanks conducted June 15, 1984, did not detect drastic thinning in any portion of the tanks (Trombold, 1984). There were no releases from the former blendable waste storage tanks documented as a result of facility inspection.

An April 1984 USEPA inspection of the RSC facility noted drums staged in the former drum processing area that were open, either lacking a top or having a deteriorated top. Drums were also stacked in an unstable manner in this area. Some containers appeared to be (or had been) leaking at the time of this inspection. During a July 16, 1984, USEPA inspection of RSC, a slight oil sheen was observed in rainwater runoff from the former drum processing area.

The two 4,500-gallon blendable waste storage tanks, a concrete pad, and a 3,000-gallon tank trailer were removed from service in June 1988. As part of a partial closure plan for the facility, solids and sludge were removed from the 4,500-gallon tanks and drummed for offsite energy recovery or incineration. The cleaned tanks were disposed as scrap metal while associated piping was cleaned for reuse with the tanks. The concrete pad and diked area were removed for hazardous waste landfill disposal. Following removal of the pad, four soil core samples were collected for chemical analysis (HRI, 1988).

4.3.4 Potential for Release

This area was closed from service in June 1988 and is now covered by Building K, the current Process Area. While the closure was approved by KDHE, there may be a potential for release from contaminated areas which may still underlie the area. The overall potential for release is low.

4.4 PROCESS AREA TRUCK BAY

4.4.1 Unit Characteristics

The Process Area truck bay is a SWMU located at the southern end of Building K (see Figure 2-2). This bay is used primarily for onloading wastes to transport tanker trucks. Wastes are pumped from the Process Area storage tanks and the storage tanks in the western portion of Building D through a pipe manifold adjacent to the bay. Bulk wastes may also be pumped from tanker trucks to one of the facility's storage tanks. At the time of the VSI, a tractor trailer truck holding a number of 55-gallon drums was parked immediately south of the truck bay. A view of the truck bay is shown in a photograph on page B-3 of Appendix B.

The truck bay, as well as the remainder of the Process Area, is covered by Building K. The bay is ramped in and out and equipped with a trench-drained central sump. This central sump is interconnected by drain channels to the Process Area (VSI, 1990). The bay is constructed with bermed curbs and a protective guardrail along the southern berm. At the time of the VSI, power washing equipment was staged along the south end of the truck bay.

4.4.2 Waste Characteristics

All liquid wastes held in storage tanks in the Process Area and Building D are eventually pumped to tanker trucks for transport from the facility. Specific wastes pumped to the tanker trucks are outlined in subsections 4.1.1 and 4.5.1. Virgin No. 2 diesel fuel may also be unloaded from tanker trucks in the bay to a tank in Building D. At the time the VSI was conducted, nonregulated waste (journal bearing grease), stored in 55-gallon drums, was staged in the truck bay.

4.4.3 History of Releases

The truck bay was constructed along with the Process Area in 1988. No waste releases have been documented in inspection reports completed since that time.

4.4.4 Potential for Release

Any releases in the truck bay would be contained within the containment structures of the bay. The primary cause for an inadvertent release in the truck bay would be due operator error during waste loading or unloading to the storage tanks. Spilled wastes could be pumped from the containment system directly to an appropriate

storage tank. Wastewaters contained in the central sump are pumped to a storage tank in Building D as F-listed wastewater. The potential for waste release from this area is low.

4.5 SPARGING AREA

4.5.1 Unit Characteristics

Three steam-pressurized sparging units are located in the southern portion of Building D as shown on Figure 2-2. These units are utilized by HRI to "strip" perchloroethylene from spent canisters and filters received from the dry cleaning industry. Sparging operations began at the current location sometime between 1984 and 1986 after space was acquired in Building D and solvent distillation operations ceased in the RSC North Plant (former Service Chemical Supply Company). A July 1987 KDHE inspection noted reclaimed perchloroethylene was sold to Service Chemical Supply Company.

Perchloroethylene is separated through a live-steam sparging process in three units. Steam is supplied from a boiler in Building D. Two 80-gallon holding tanks are utilized, one for perchloroethylene and one for perchloroethylene-contaminated wastewater. These tanks are automatically pumped when the level reaches 50 gallons. These holding tanks are pumped out at least once per day (KDHE, 1989a). The sparging area is equipped with a central sump (shown in a photograph on page B-3 in Appendix B).

New sparging equipment was expected to be installed in Building D June 27, 1990 (VSI, 1990). The new equipment will recycle phase separation water, minimizing the generation of F-listed wastewater during sparging. The sparging area is identified as a SWMU.

4.5.2 Waste Characteristics

Bagged dry cleaning waste is stored in a segregated portion of Building C (described in subsection 4.11). Following "stripping" of perchloroethylene, cartridges are disassembled and scrap metal is accumulated for sale to a recycler. Scrap plastic is shredded to be incinerated offsite, although HRI stated this waste plastic meets the treatment standard (VSI, 1990). Filter paper from spent dry cleaning wastes is disposed as solid waste if it meets treatment standards. Filter paper with a heat

content value greater than 6,000 BTU/lb is accumulated for offsite incineration or energy recovery. Activated carbon recovered from spent dry cleaning canisters is accumulated for offsite regeneration or energy recovery. Recycled perchloroethylene is accumulated and sold for reuse (VSI, 1990).

Perchloroethylene-contaminated steam collected during phase separation is transferred to a surge tank where it is condenses. This wastewater is pumped to one of two tanks in Building D to be handled as F-listed wastewater. A drum also collects liquid under the steam condensate line at each sparging unit. Noncontact cooling water is circulated through each sparging unit for direct discharge to the municipal sewer (VSI, 1990).

4.5.3 History of Releases

No waste releases have been documented within the sparging area during previous inspections of the facility. Additionally, no evidence of past release was noted during the VSI.

4.5.4 Potential for Release

The sparging units appeared to be in good working condition during the VSI and operating conditions were orderly. The new sparging units will reduce the amount of F-listed wastewater generated once the new equipment is placed in service. Therefore, the potential for uncontrolled waste release from the sparging area is low.

4.6 HOT ROOM

4.6.1 Unit Characteristics

Adjacent to the sparging units is the Hot Room, a metal enclosure which is maintained at 150°F, with dimensions approximately 25 feet by 10 feet by 8 feet. Drummed wastes such as paraffin and greases are placed in the Hot Room to lower the viscosity of such wastes prior to blending. There are no floor drains within the Hot Room (VSI, 1990). The Hot Room is identified as a SWMU.

4.6.2 Waste Characteristics

Highly viscous wastes stored in a nondiked area of Building B (described in subsection 4.12) are placed in the Hot Room prior to processing. Wastes typically placed in the Hot Room include waxes (i.e. paraffin) and greases (VSI, 1990).

4.6.3 History of Releases

No waste releases have been documented within the Hot Room as a result of previous inspections of the facility. Additionally, no evidence of release from the room was noted during the VSI.

4.6.4 Potential for Release

The Hot Room is entirely enclosed and located in a common secondary containment area with the sparging units. A waste release would be retained within the Hot Room. The potential for release from the unit low.

4.7 ELEVATED TANK STORAGE AREA

4.7.1 Unit Characteristics

There are eleven storage tanks in the western portion of Building D containing hazardous and nonhazardous wastes, recyclable material, and virgin No. 2 diesel fuel. All eleven storage tanks are constructed of carbon steel. The latest thickness testing of these tanks was reportedly conducted in August 1989 (KDHE, 1989a). The tanks are perched on a steel framework approximately 15 feet above floor level. The tanks are piped into the manifolds in the Process Area for onloading wastes during drum processing and offloading wastes to transport tanker trucks in the truck bay. The steel framework supporting the tanks, and the tank piping network are shown in a photograph on page B-2 of Appendix B. The elevated tank storage area is equipped with containment controls and a collection sump. This sump is shown in a photograph on page B-2 of Appendix B.

These elevated storage tanks were put into use in 1988 (KDHE, 1988). Prior to this time, this area was part of the fenced drum processing area described in subsection 4.2. For the purpose of this report, the eleven storage tanks will be considered as a single SWMU, although six of the eleven tanks are used storage of recycled perchloroethylene, virgin No. 2 diesel fuel, and nonhazardous waste oil.

4.7.2 Waste Characteristics

Wastes stored in the eleven elevated storage tanks in Building D are classified as both hazardous and nonhazardous. In addition, one tank is used for storage of recycled perchloroethylene and one tank for storage of virgin No. 2 diesel. The tanks and tank contents are as follows:

(1) 5,000-gallon storage tank for wastewater (F001, F002, F003, F005; total F-listed compounds less than 1 percent) for offsite deepwell injection.

(2) 5,000-gallon storage tank for wastewater (F001, F002, F003, F005; total F-listed compound greater than 1 percent) for offsite commercial incineration.

(3) and (4) two 5,000-gallon storage tanks for waste trichloromethane for offsite reclamation. (The contents of these two tanks varies with the market for recycling other chlorinated solvents).

(5) 9,000-gallon storage tank for wastewater-soluble machine coolant oils (D001, D007, D008) for offsite deepwell injection or offsite commercial incineration (if heat content of the waste meets the 6,000 BTU/lb regional standard).

(6) through (9) series of four 2,000-gallon storage tanks piped together, for nonhazardous waste oil storage for offsite reclamation.

(10) 5,000-gallon storage tank for sparged perchloroethylene recycled onsite and sold for reuse.

(11) 5,000-gallon storage tank for Virgin No. 2 diesel fuel.

4.7.3 History of Releases

No releases have been reported in the elevated tank storage area as a result of previous facility inspections. In addition, no evidence of release were noted during the VSI.

4.7.4 Potential for Release

Given the young age of the tanks and past inspection of the tanks, any uncontrolled release from the storage tanks is unlikely, therefore the potential for release is low. Any waste discharge from these tanks would be contained within this area and pumped back into an appropriate storage tank or drums.

4.8 NONREGULATED WASTE STORAGE AREA

4.8.1 Unit Characteristics

An area in the northern portion of Building D is used for storage of nonregulated wastes and empty containers. Nonregulated wastes stored in 55-gallon drums and drum overpacks were stacked two drums high, the majority on pallets, at the time of

the VSI. It is unknown how long this area of Building D has been utilized for storage of nonregulated wastes. This portion of Building D is identified as a SWMU.

All wastes stored in this area were stored in closed containers. A small area, approximately 20 feet by 10 feet was equipped with bermed containment. The remaining portion of Building D utilized for nonregulated waste storage at the time of the VSI did not have secondary containment. HRI stated the entire nonregulated waste storage area in Building D will be diked in the future (VSI, 1990).

4.8.2 Waste Characteristics

Wastes stored in this area were labeled or categorized as nonhazardous at the time of the VSI. Drummed waste included journal bearing grease. Nearly empty 15-gallon sulfuric acid containers were also being stored in this area during the VSI. Empty power-washed drums which had contained caustic materials have been stored in this area in the past (KDHE, 1989a).

4.8.3 History of Releases

No releases have been reported from the nonregulated waste storage area during past inspections. However, during the VSI an area of stained concrete was noted in the northcentral portion of Building D, as shown in a photograph on page B-1 of Appendix B. This stained area was in the vicinity of empty sulfuric acid containers.

4.8.4 Potential for Release

As noted in the previous subsection, some spillage has occurred in the area used to store nonregulated wastes. The largest portion utilized for storage is not currently provided with secondary containment which is planned for the future. Waste handling procedures for this area were not discussed with HRI during the VSI. In consideration of these items, the potential for release is moderate.

4.9 SOLIDS DRYER AREA

4.9.1 Unit Characteristics

An area has been designated in the southeast corner of Building D for operation of a solids dryer. This unit was in place at the time of the VSI, but was not expected to be operational until July 1990. This area has been identified as an area of concern in this report in anticipation of future operation of this unit.The new unit will be used

to recover solvents from still bottoms. It is unknown whether it will be used solely for still bottoms or additionally, tank bottoms removed from the facility's storage tanks as well. This area of Building D also houses an out-of-service conveyor system which connects the lower level of Building D to an upper open area.

4.9.2 Waste Characteristics

No wastes were managed in this area at the time of the VSI. In addition, no wastes have been documented as having been handled by Reid Supply Company, Conservation Services Inc., or Hydrocarbon Recyclers Inc. in this area of Building D.

4.9.3 History of Releases

No waste releases have been noted as a result of past inspections of Building D. Additionally no evidence of past releases were noted in this area during the VSI.

4.9.4 Potential for Release

At the time of the VSI, the solids dryer was not in operation. No secondary containment controls were in place around the unit at that time. A determination of the potential release cannot be made until the unit becomes operational.

4.10 DRUM CRUSHER

4.10.1 Unit Characteristics

Empty drums (excluding corrosive waste drums which are directly transported from the facility without processing the contents) are washed with Stoddard solvent by an automatic drum washer in the drum processing area. The empty solvent-rinsed drums are ~~then~~ gravity conveyed along the east side of Building K to the southeast corner of the Process Area for reuse or crushing.

The majority of drums (about 75 percent) emptied in process at HRI are sold for reconditioning or are reused (VSI, 1990). The remaining deteriorated drums or DOT 17E drums are crushed by an hydraulically-operated drum crusher. This drum crusher is designed to crush one drum at a time in an enclosed chamber. The area underlying the drum crusher is composed of concrete. A photo of the drum crusher is included on page B-9 of Appendix B. The drum crusher is defined as a SWMU for the purpose of this report.

4.10.2 Waste Characteristics

The Stoddard solvent and the drum's contents is allowed to drain from the emptied drum into a catch basin and blended for kiln fuel. The emptied drums are conveyed to the drum crushing area. The primary items staged in the drum crushing area are empty 55-gallon steel drums which are reused or crushed and sold as scrap metal. After the drums are crushed, they are transferred to two roll-off boxes.

4.10.3 History of Releases

No releases have been documented from the drum crusher during previous inspections of the facility. Additionally, no evidence of past releases in this area were noted during the VSI.

4.10.4 Potential for Release

Since drums have been emptied and rinsed prior to crushing, only minimal residues would remain in the drums. While a concrete pad underlies the drum crusher, no berming or containment is provided to prevent spillage from running on to the adjacent gravel cover. There is also a moderate potential for spillage of any residue remaining in crushed drums to the gravel covered area when they are transferred to the roll-off boxes.

4.11 CRUSHED DRUM ROLL-OFF BOXES

4.11.1 Unit Characteristics

Two roll-off boxes of open top construction, one approximately 5 feet by 20 feet by 5 feet in size and the other 4 1/2 feet by 28 feet by 5 feet in size, are used to contain solvent-rinsed crushed drums which are sold to a scrap metal recycler. The area underlying the roll-off boxes is gravel cover. A photo of the two roll-off boxes used to contain crushed drums are included on page B-9 of Appendix B. This area is defined as a SWMU for the purpose of this report..

4.11.2 Waste Characteristics

Only empty solvent-rinsed drums are placed in the two roll-off boxes. Minimal solvent and blendable waste residues may remain within the crushed drums.

4.11.3 History of Release

No releases have been documented from the roll-off boxes during previous inspections of the facility. Additionally, no evidence of past releases in this area were noted during the VSI.

4.11.4 Potential for Release

Since drums have been emptied and rinsed prior to crushing, only minimal residues would remain in the drums. Gravel cover underlies the roll-off boxes and there is a moderate potential for spillage of any residue remaining in crushed drums as drums are transferred to the roll-off boxes. In addition, the open top construction captures precipitation which may then in turn drain from the roll-off boxes to the gravel covered area.

4.12 WARM ROOM

4.12.1 Unit Characteristics

The Warm Room is located adjacent to the Foreman's Office, as shown on Figure 2-2. The Warm Room is used during the winter months to thaw iced drums prior to waste processing. This unit is an enclosed portion of the building which includes the Foreman's Office. The door to the Warm Room can be locked from the exterior. The room is diked but not equipped with a sump. Currently, the Warm Room contains a one-drum capacity warmer jacket that had been used on an experimental basis to thaw drums (VSI, 1990).

There is no discussion of the Warm Room in past inspection reports for the facility and it is not known how long this room has been used for waste holding operations. The Warm Room has not been identified by KDHE as a long-term storage area for drummed wastes (KDHE, 1989b). For the purpose of this report, the Warm Room has been classified as a SWMU.

4.12.2 Waste Characteristics

Drummed wastes which will be handled in the drum processing area, located immediately east of the Warm Room, may be placed in the Warm Room if the drum is iced. The types of drummed wastes which might be placed in the Warm Room are described in subsections 4.4.1 and 4.5.1. No drummed wastes were stored in the Warm Room at the time of the VSI, which was conducted during the summer.

4.12.3 History of Releases

No waste releases have been reported from this area of the facility as a result of previous inspections of the facility. No visual evidence of past release was noted during the VSI, although a strong solvent odor was noted at the time the door to the Warm Room was opened by HRI personnel.

4.12.4 Potential for Release

Frozen drums may be structurally damaged and may leak upon thawing. The potential is low for release of wastes in liquid form from the Warm Room with the secondary containment structures that are provided. Based on the observations made during the VSI, the potential for release of wastes in vapor form is moderate. Vapor-suppression and explosion-proof controls within the Warm Room were not discussed during the VSI.

4.13 DOCK AREA

4.13.1 Unit Characteristics

The dock area, shown on Figure 2-2, is located along the southern side of Building C, the drum storage warehouse. The dock is used for unloading drummed wastes transported to the facility. This area is identified as a SWMU for the purpose of this report. Photographs of the dock area are included on page B-6 of Appendix B.

The first file record of drums stored in the dock area of Building C is noted in a letter from KDHE to Reid Supply Company dated September 4, 1981. A photograph of this area, included with a Part A permit application submitted by Reid Supply Company on November 9, 1982, shows a number of drums stored in this area. An April 1984 USEPA inspection noted an excess number of drums stored in this area. Current drum storage allowed by KDHE in the dock area is one hundred 55-gallon drums.

The dock area is currently constructed of a concrete pad with diked containment. A cover was installed over this area during mid-1990. Wastes can be brought into the area by means of a loading dock at the west end of this area, or by forklift via a ramp at the southwest end of this area. Wastes are segregated to some degree in the dock area by maintaining aisle space between groups of similar drummed wastes.

4.13.2 Waste Characteristics

All drummed wastes which are not taken immediately into processing at the facility are staged in the dock area. Drums remain in this area no more than two days while a "fingerprint" is obtained for wastes whose profile is not on file with the facility (KDHE, 1989a).

4.13.3 History of Releases

Wastes released from deteriorated drums stored in the dock area have been documented as a result of previous inspections of the facility. During an April 1984 USEPA inspection, a container containing phosphoric and nitric acid was noted as leaking. This leaking drum, and other drums of waste acid, were observed to be stored in close proximity to drummed solvent wastes (USEPA, 1984). Drums were also noted as being stacked or staged in an unstable manner in this area. All drums were reported to have been removed from the area during a July 16, 1984, USEPA inspection of the facility.

Two soil samples were collected outside Building C west of the dock area during a July 2, 1987 KDHE inspection of the facility. The samples were submitted for chemical analysis for EP Toxicity and VOCs. No VOCs were found in the sample above detection limits. As a result of the EP Toxicity testing, no metals were detected in significantly high concentration, although backgrounds concentrations were not established for this industrialized area.

During a June 1989 KDHE inspection of the facility, a drum containing waste with a pH level of 1 was noted to be stored next to a dented drum with a pH level of 12. During the VSI, drums appeared to be in good condition and staged in a safe manner.

4.13.4 Potential for Release

Drums are opened in the dock area for collection of samples (VSI, 1990). Drums are currently segregated with some groups of drums stored on pallets. Segregation of incompatible wastes must be maintained in this area. Space is somewhat restricted for negotiation of a forklift within this area. Potentially, a release could occur by puncturing a drum during forklift operation. Any release within the dock area would

be retained within the bermed containment provided. The potential for release from the dock area is low.

4.14 DRUM STORAGE WAREHOUSE (BUILDING C)

4.14.1 Unit Characteristics

The drum storage warehouse, Building C, is a SWMU currently utilized for holding drummed and bagged wastes awaiting processing at the facility or transport from the facility. The warehouse is comprised of a corrugated metal structure over a concrete base provided with secondary containment. The warehouse, as shown on Figure 2-2, is located in the northwest corner of the facility.

Upon submittal of a Part A permit application by RSC on November 5, 1982, the facility reported that the drum storage warehouse was not fully utilized. At that time, the warehouse was not equipped with containment structures and drums were stored only in the eastern third of the building. An April 1984 USEPA inspection of the facility noted brick and concrete block structures in place as secondary containment measures. It was also observed that an excess number of drums, some deteriorated, were staged in the warehouse. An October 1984 inspection conducted jointly by USEPA and KDHE noted storage conditions were improved within the warehouse but the brick perimeter dike in place to contain spilled wastes was not adequate.

Improvements to the drum storage warehouse began in late 1984 (Trombold, 1984). Total facility drum storage had been five hundred 55-gallon drums prior to this time. Following construction of these improvements by the facility and approval by KDHE, the allowable drum storage in the warehouse was increased to one thousand seven hundred 55-gallon drums.

The corrugated metal structure is approximately 300 feet by 40 feet in dimension. The underlying base is an 18-inch-thick concrete slab (Trombold, 1984). The containment system is a 6-inch-high perimeter concrete dike with individual curbed sections within the main diked area and west of the main diked area for segregation of wastes. These segregation diked areas are shown in photographs included on pages B-6 and B-7 in Appendix B. The main diked portion is separated into three equal sections, each equipped with a collection sump. One of the sumps was observed to be filled with sand at the time of the VSI. The warehouse is equipped

with ventilation controls and drums are separated to provide the necessary fire protection controls.

4.14.2 Waste Characteristics

Following container inventory and "fingerprinting" of wastes, drummed wastes are transported by forklift from the dock area into the warehouse. All drummed wastes which are not immediately processed at the facility are temporarily stored in the warehouse. Typically, the number of drums stored varies from 500 in January to 1,400 in June (VSI, 1990). Flammable and corrosive wastes can be stored in a segregation area at the west end of the warehouse. This area contained drummed corrosive wastes and bagged dry cleaning wastes at the time of the VSI.

4.14.3 History of Releases

Drums in a deteriorated condition, specifically rusted or dented drums, have occasionally been noted during previous inspections of the drum storage warehouse. During a June 1989 KDHE inspection of the warehouse, five drums with small seeps were noted. No evidence of past waste release was observed during the VSI.

4.14.4 Potential for Release

Currently, drums are stored in an orderly manner and within the allowable limit imposed by KDHE. A release could potentially occur due to puncture of a drum during forklift operation within the warehouse. Prudent safety measures practiced by the operator reduce this potential release. Secondary containment and ventilation controls in place provide adequate measures of safety. Waste releases could be managed with the safety controls in place. The potential for release from the drum storage warehouse is low.

4.15 CORROSIVE WASTE STORAGE AREA

4.15.1 Unit Characteristics

Corrosive wastes are stored in Building B located in the southcentral portion of the facility as shown on Figure 2-2. After corrosive wastes have been inventoried and "fingerprinted" (if a waste profile is not on file with HRI for the waste) the wastes are moved from the dock area to segregation areas within Building B.

The drum storage capacity for the entire HRI facility was increased to 181,000 gallons in 1988 at which time Building B was designated for storage of corrosive wastes. Storage capacity for Building B ranges from four hundred to five hundred 55-gallon drums based on the total amount of drummed waste stored at the facility. The eastern half of Building B is divided into three separate diked areas, two for storage of caustic wastes and one for acidic wastes. The western half is nondiked for storage of various solid wastes. This western area is equipped with a sump (VSI, 1990). A photograph of this sump is included on page B-8 of Appendix B. The corrosive waste storage area has been identified as a SWMU.

4.15.2 Waste Characteristics

Building B is utilized for segregated storage of corrosive solid and liquid wastes. Testing is performed to determine if a waste is a corrosive solid by measuring the pH level of water leached from the solid. In addition to corrosive waste storage, a nondiked area of Building B is utilized for storage of bagged solid wastes for offsite commercial incineration and staging of drummed highly viscous wastes awaiting transport to the Hot Room (VSI, 1990).

4.15.3 History of Releases

No waste releases have been documented in Building B as a result of previous facility inspections. Additionally, no evidence of previous releases were observed during the VSI.

4.15.4 Potential for Release

During the VSI, drums stored in the diked portions of Building B were noted to be in good condition and, along with the remaining drummed waste in the nondiked area, within allowable limits for total drum storage. Only bagged solid wastes and highly viscous wastes were stored in the nondiked area. Although the nondiked area is equipped with a collection sump, an release of waste liquid may not be adequately contained within this area. In consideration of the following items, the potential for release from the corrosive storage area is moderate.

4.16 DRY SOLIDS GONDOLA

4.16.1 Unit Characteristics

A "gondola" (closed-top roll-off box) owned by USPCI was observed south of Building C during the VSI. The "gondola" is reported to be used for disposal of dry solid wastes (VSI, 1990). The "gondola" at this location, as shown on Figure 2-2, is not recorded in previous inspection reports for the facility. A photograph of the "gondola" is included on page B-10 of Appendix B.

Dry solid waste is loaded in the "gondola" by means of an hydraulically-operated drum dumper. The area surrounding and underlying the "gondola" is comprised of gravel cover. The "gondola" is staged in an area used to negotiate tractor trailer trucks approaching the dock area of the drum storage warehouse (VSI, 1990). The dry solids "gondola" is identified as a SWMU.

4.16.2 Waste Characteristics

During the VSI, HRI stated non-land banned solid wastes are accumulated in the "gondola" for offsite landfill disposal. Wastes accumulated for disposal at the time of the VSI included metal-contaminated soils and debris (VSI, 1990). HRI has also disposed of non-flammable dry paint solids containing no F-listed contaminants for offsite landfill disposal (KDHE, 1989a). Nonblendable solids exhibiting some hazardous waste characteristics (D001, D007, D008, F006) may also be accumulated for disposal in the "gondola".

4.16.3 History of Releases

No waste releases from the "gondola" staged in this area have been documented as a result of past inspections of the facility. In addition, no evidence of past release was observed during the VSI.

4.16.4 Potential for Release

Waste release from the top of the "gondola" is prevented due to the closed-top construction of the unit which also precludes precipitation. Since the "gondola" is underlain by gravel, an release which might occur during loading of the "gondola" would not be contained. Waste loading and "gondola" transport procedures were not discussed during the VSI. In consideration of the following items, the potential for release from the dry solids "gondola" is moderate.

4.17 LABORATORY SAMPLE STORAGE AREA

4.17.1 Unit Characteristics

A laboratory is maintained in Building A (shown on Figure 2-2) for chemical analysis of samples collected from waste shipments and samples shipped to the facility by serviced clients. The facility originally operated an onsite laboratory in the location currently occupied by the Foreman's Office (Trombold, 1984). The Building A laboratory began operations in August 1988 (KDHE, 1988).

Waste samples are analyzed in the laboratory for specific gravity, pH, heat content, and flashpoint to determine segregation and processing requirements. Analyses can also be conducted for chloride content, solids content, and gas chromatography "fingerprinting" (KDHE, 1989a). A waste "profile" is required for all wastes handled by the facility.

Following initial analysis, a representative waste sample may be held for a maximum of six months by the facility. A representative waste volume is retained in a sample container and held in an enclosed storeroom within Building A. The samples are stacked in this storeroom which is maintained at ambient temperature and equipped with a timed exhaust fan. After the six month time limit has expired, the waste samples are channeled through the facility accordingly. A drum has also been used in the laboratory for accumulating samples after analysis (KDHE, 1989a). The laboratory sample storage area has been designated as an area of concern for the purpose of this report.

4.17.2 Waste Characteristics

Any waste received which has not been "profiled" during previous handling will be analyzed by the facility. A representative volume will be retained for possible future analyses (VSI, 1990). The range of wastes received by the facility from which a representative sample may be retained is outlined in Figure 3-2.

4.17.3 History of Releases

No waste releases have been reported from the laboratory sample storage area as a result of previous investigations of the facility.

4.17.4 Potential for Release

Waste samples are stored in closed containers and stacked in the storeroom. No floor drains are present in the storeroom. Containment and segregation measures within the storeroom were not discussed during the VSI. The potential for release from the laboratory sample storage area is low.

4.18 VEHICLE FUELING TANKS

4.18.1 Unit Characteristics

Two elevated 500-gallon fuel storage tanks are used for vehicle fueling at the HRI facility. The tanks are located in the southwestern portion of the facility, west of Building B, as shown on Figure 2-2. One tank is used for storage of unleaded gasoline and the other for storage of diesel fuel. A photograph of these tanks is included on page B-10 of Appendix B.

Each 500-gallon capacity steel storage tank is mounted on steel frame work supports. The tanks are vented and fuel is gravity fed during fueling. The area underlying the tanks is comprised of gravel cover. HRI stated that there are no current or out-of-service underground storage tanks at the HRI facility (VSI, 1990). The vehicle fueling tanks have been designated as an area of concern for the purpose of this report.

4.18.2 Waste Characteristics

The vehicle fueling tanks are currently used for storage of virgin vehicle fuels. No wastes have been reported to be stored in this tanks during previous inspections of the facility.

4.18.3 History of Releases

No releases have been reported from the vehicle fueling tanks as a result of previous investigations of the facility. This area was not observed for evidence of release during the VSI.

4.18.4 Potential for Release

Since the area underlying the tanks is comprised of gravel cover, any fuel release from the tanks would not be adequately contained. Inspection and maintenance procedures for the vehicle fueling tanks were not discussed during the VSI. In

consideration of these items, the potential for release from the vehicle fueling tanks is moderate.

4.19 OPEN AREA ALONG SOUTHWEST CORNER

4.19.1 Unit Characteristics

The southwest portion of the HRI facility historically has not been utilized for waste handling or processing operations, although various materials have been staged or stored in this area. The first reported utilization of this portion of the facility was noted during the April 1984 USEPA inspection of the facility. A large quantity of drums were observed along the facility's western border. RSC stated that this area was utilized for empty drum storage (USEPA, 1984a). Drummed waste was also observed to be staged south of the drum storage warehouse in a location which currently corresponds to the open area immediately east of the dry solids gondola. A mound of tires was observed in the open area south of the drum storage warehouse during a July 1984 USEPA inspection of the facility. An out-of-service distillation unit was noted in this same area during a June 1988 KDHE inspection of the facility.

The open area along the southwest corner was not utilized for material storage at the time of the VSI, although a USPCI tractor trailer was parked in the area, as shown in a photograph included on page B-10 of Appendix B. This area of the facility is comprised of gravel and earthen cover. The area is utilized for vehicle trafficking, which includes trucks hauling wastes into the facility. This area is identified as a SWMU.

4.19.2 Waste Characteristics

No waste materials are currently stored in this area of the facility. Wastes previously stored in this area include empty drums, tires, and scrap metals (VSI, 1990).

4.19.3 History of Releases

No waste releases have been reported in this area as a result of previous facility inspections. This area was not observed for evidence of release during the VSI.

4.19.4 Potential for Release

This portion of the facility has been used for open storage of drums, tires, and various scrap metallic items. Areas of contamination which may have resulted from past utilization of this portion of the facility are not documented. No waste handling or processing operations are currently conducted in this area on an ongoing basis, although the area is trafficked by waste transport trucks. The potential for release in this portion of the facility is low to moderate.

4.20 BUILDING J

4.20.1 Unit Characteristics

Building J, shown on Figure 3-1, is located on the property which was previously operated as the RSC North Plant, and subsequently the Service Chemical Supply Company (as discussed in subsection 3.1.2). Building J was historically utilized for drum storage of virgin flammable and chlorinated solvents as well as office space (Trombold, 1984). This building is identified as an area of concern for the purpose of this report.

Building J is a large warehouse located in the central portion of the former RSC North Plant. The building was locked at the time of the VSI and reported by HRI to be out-of-service. However, the building was being utilized at the time of the VSI for storage of household wastes collected by USPCI. The wastes, primarily paint wastes, were received in lab-packed drums. Wastes recovered from the lab-packed containers were placed in 55-gallon drums for transport from Building J by USPCI. Empty household waste containers were accumulated in 55-gallon drums, boxes, and large mesh bags. Recovery operations were in various stages at the time of the VSI within Building J. Photographs of these operations are included on pages B-13 and B-14 of Appendix B.

4.20.2 Waste Characteristics

Only household wastes were stored in Building J at the time of the VSI. HRI stated the household waste was to be transported from Building J shortly after the VSI, at which time the building will be emptied of all stored materials (VSI, 1990).

4.20.3 History of Releases

No waste releases have been reported as a result of previous inspections of Building J. Chemical storage operations (and potential waste handling procedures) previously conducted within Building J are not clearly documented in state and USEPA file materials. No evidence of past releases were observed during the VSI.

4.20.4 Potential for Release

Lab-packed drums were stored on pallets within Building J. Emptied containers (still containing waste residues) were stored in open 55-gallon drums, open boxes, and large mesh bags. Household wastes stored in 55-gallon drums were staged in an open area of the building. No containment measures were provided around these drums. Therefore, leakage or spillage could result in an uncontained release. The potential for release from Building J is moderate.

4.21 BUILDING I

4.21.1 Unit Characteristics

Building I, shown on Figure 3-1, is also located on the property which was previously operated as the RSC North Plant, and subsequently the Service Chemical Supply Company (as discussed in subsection 3.1.2). The building was utilized by Reid Supply Company for solvent distillation processing [nonchlorinated batch solvent and chlorinated solvent distillation (RSC, 1982)] and acid repackaging (Trombold, 1984). The distillation processing began in Building I in late 1981 or 1982 (KDHE, 1981). This distillation was conducted in a diked segregated room at the west end of Building I.

An April 1984 USEPA inspection of the facility reported spent nonchlorinated solvents were transported from the former processing area in the RSC South Plant to the distillation area via a 1,300-gallon transfer truck. The spent solvents were pumped into one of two 750-gallon feed tanks in the distillation area. Recovered solvents were either drummed directly from the condenser system or held in bulk storage tanks (shown on Figure 3-1). Other tanks previously used in solvent distillation processing are discussed in subsection 4.23 . These tanks, previously located west and northwest of Building I (as shown on Figure 3-1), have been removed (VSI, 1990). Still bottoms removed from the system were stored in the two 4,500-gallon vertical storage tanks at the RSC South Plant. Chlorinated solvent

distillation was reported to have been discontinued at the time the April 1984 USEPA facility inspection was conducted.

An acid repackaging area was also maintained within Building I during RSC's operation of the North Plant (Trombold, 1984). Four elevated above ground storage tanks (shown on Figure 3-1) were piped into an acid repackaging area located in the northcentral portion of Building I. Acid repackaging was also conducted in this area during operation of Building I by the Service Chemical Supply Company. Sulfuric acid (held in two tanks), nitric acid, and hydrochloric acid were piped into the area for packaging in smaller containers for commercial sale (VSI, 1990). A photograph of this area (as it is appeared at the time of the VSI) is included on page B-12 of Appendix B. Only the hydrochloric acid storage tank (500-gallon) was still in place behind Building I at the time of the VSI, as shown in the photograph on page B-17 of Appendix B.

Building I, currently utilized for nonhazardous materials storage, was in the process of being cleaned at the time the VSI was conducted. The out-of-service distillation unit was observed to have been moved from the open area south of Building C (described in subsection 4.19) back to the former distillation area in Building I. A sheet metal covered pit was also observed in the southcentral portion of Building I during the VSI.

4.21.2 Waste Characteristics

Wastes previously processed in Building I included chlorinated and nonchlorinated solvents. Virgin acids, including sulfuric, nitric, and hydrochloric acid, were packaged within Building I during operation by Reid Supply Company and Service Chemical Supply Company (VSI, 1990).

4.21.3 History of Releases

No waste releases have been reported in Building I during previous inspections. Tanks used in distillation processing, previously located on the west side of Building I, were reportedly used only for temporary holding of waste solvents (16 to 24 hours) and totally drained during processing (Trombold, 1984). Inspection procedures for the tanks previously used in still processing are unknown.

4.21.4 Potential for Release

There is currently no active waste handling conducted or storage areas maintained within Building I. Debris within the building was in the process of being removed during the VSI. The single remaining storage tank behind Building I at the time of the VSI was reported to be empty (VSI, 1990). The distillation processing tanks previously located west of Building I no longer remain. Since no waste handling activities are currently conducted within Building I, the potential for release is low.

4.22 CONCRETE VAULT

4.22.1 Unit Characteristics

An open concrete vault, shown on Figure 3-1, is located in the northwest corner of the property which was previously operated as the RSC North Plant and subsequently the Service Chemical Supply Company. This concrete vault, which previously functioned as a discharge basin, was utilized by RSC during solvent distillation processing (Trombold, 1984). Once-through cooling water used in the still condenser system, previously located in Building I, was discharged to a concrete basin (vault) in the northwest corner of the North Plant. RSC stated that the basin did not discharge (USEPA, 1984a).

The sidewalls of the tank were pitted and "etched" in a photograph dated July 7, 1981 included with a revised Part A permit application submitted by RSC on July 23, 1981. This would tend to indicate that concrete deterioration had occurred as a result of activities conducted at the RSC North Plant prior to operation by the Reid Supply Company. RSC began distillation processing in late 1981.

This vault is currently filled with construction debris, primarily masonry blocks, bricks, concrete, and steel reinforcement bars. The sidewalls of the concrete vault have been "etched" from unknown previous discharges to this vault (VSI, 1990). The west sidewall has been fractured vertically as shown in a photograph on page B-17 of Appendix B. The concrete vault is identified as an area of concern for the purpose of this report.

4.22.2 Waste Characteristics

Wastes previously handled in the area of the concrete vault included chlorinated and nonchlorinated solvents processed during Building I distillation operations. The vault is currently out of use and is partially filled with miscellaneous debris (VSI,1990).

4.22.3 History of Releases

A deteriorated drum was observed in the discharge basin at the time the April 1984 USEPA inspection was conducted. No waste releases have been reported from the vault during previous inspections. The vault is currently out of service.

4.22.4 Potential for Release

There is currently no active waste handling conducted or waste storage maintained around the vault. The vault remains open and is filled with miscellaneous debris, although the exact contents are unknown. The sidewalls of the vault are "etched" and fractured which has compromised the structural and retention capabilities of the vault. Precipitation is received by the vault which may in turn infiltrate into the underlying media. Since the past discharges and the current debris in the vault have not been characterized; the structural and retentive capacities of the vault are no longer in tact; and the vault remains open to surface discharges, the is a high potential for release from the vault if contaminants are present.

4.23 OPEN AREA NORTH OF BUILDING I

4.23.1 Unit Characteristics

The open area north of Building I was previously utilized for bulk storage of virgin solvents in above ground tanks and storage of drummed wastes. Figure 3-1 shows the storage tanks previously utilized at the RSC North Plant. (The tank locations were located as shown on Figure 3-1 based on a figure provided in a Reid Supply Company Part A permit application dated July 23, 1981. These tanks were observed during the VSI to actually be located north and east of Building I).

During an April 1984 USEPA inspection of the Reid Supply Company, numerous drums were noted to have been stored north of Building I. Approximately 98 drums of paint wastes and waste thinner were stored in the northeast corner of the north plant. Of these drums, 15 were found to contain radioactive material from solvent stripping illuminated aircraft instruments. During the same inspection, drums of

liquid caustic were observed north of Building I. This solution was reportedly used to clean the still systems. All drums, with the exception of the 15 radioactive waste drums, were removed from the open area north of Building I at the time of a July 1984 USEPA inspection. The radioactive waste drums had been overpacked, placed on pallets, and covered with a tarp for subsequent offsite disposal.

The open area north of Building I is no longer operated by the Service Chemical Company, now a defunct company. Miscellaneous equipment, piping and concrete formwork still remain on the property. During the VSI, representatives of Service Chemical Supply Company were in the process of cutting up four 5,000-gallon tanks in the northeast corner of the property. This removal process is shown in a photograph included on page B-15 of Appendix B. The area north of Building I is comprised of gravel and earthen cover. The open area north of Building I has been identified as an area of concern for the purpose of this report.

4.23.2 Waste Characteristics

Drummed materials identified during previous inspections that have been stored in the open area north of Building I include paint wastes, 15 drums of which were radioactive. Virgin nonchlorinated solvents, including acetone, xylene, toluene, isopropyl alcohol, acetone, methyl ethyl ketone, methanol, denatured alcohol, mineral spirits, and butyl cellosolve, were stored in above ground tanks in this area (as shown on Figure 3-1).

4.23.3 History of Releases

The April 1984 USEPA inspection noted that many of the drums stored in the open area of the north plant were open, some in a deteriorated condition. During the VSI, surface staining was noted directly northeast of Building I along the fence line which separates the property from an open drainageway to the north. This surface staining can be seen in a photograph included on page B-14 of Appendix B. In addition, distressed vegetation was noted between the fence and the drainageway as can be seen in photographs included on pages B-15 and B-16 of Appendix B. The drainageway was filled with standing water at the time of the VSI.

There are two PVC ground water observation wells located south of the fence line in this area, as shown on Figure 2-4. These wells were installed by Union Pacific

Railroad to monitor groundwater chemistry at or within five feet of the ground water table. Analytical results for samples collected from these wells are included in Table 2-4

4.23.4 Potential for Release

No wastes are currently stored or handled in this area. Surface staining may indicate source areas of soil contamination, with potential contaminant runoff to the open drainageway or potential contaminant infiltration to the underlying groundwater. Since surface runoff from the area north of Building I drains directly to the open drainageway, the potential for release is high.

5.0 CONCLUSIONS AND SUGGESTED FURTHER ACTION

5.1 GENERAL FACILITY SUMMARY

The purpose of this section is to provide suggestions and rationale for further actions during the remainder of the RCRA Facility Assessment (RFA) process. This section summarizes conclusions about the various solid waste management units and areas of concern as a result of conducting the preliminary review (PR) and visual site inspection (VSI). The suggestions for further action are based on the facility evaluation presented in Sections 3.0 and 4.0. A summary of recommendations appears in Table 5-1 at the end of this section. At this point in the RFA process, it is recommended that a sampling visit (SV) should be conducted to supplement the information assembled in the PR and VSI.

The PR and VSI have determined that Hydrocarbon Recyclers, Inc. (HRI) currently conducts waste handling and processing services under RCRA Interim Status. The property on which HRI operates was previously identified as the South Plant of the former Reid Supply Company (RSC). All buildings on the HRI facility property are occupied by HRI. HRI is in the process of obtaining RCRA Part B Permit Status as a treatment, storage, and disposal facility; generator; transporter; and marketer to a burner for hazardous waste activities conducted at this facility. Several improvements have been made to the facility during the ongoing permitting process. A Part B permit application was submitted when the facility was operated by RSC. These improvements have included a covered Process Area (Building K), new above ground storage tanks in the Process Area and Building D, and an improved waste profiling process. The total number of drums stored at the facility has generally remained within allowable limits imposed by KDHE during the period the facility has operated as HRI. At the time of the VSI, drum count in the allowable storage areas of the facility (the drum storage warehouse, Building B, the sparging area, the Hot Room, the Process Area, and the truck bay) was within KDHE limits.

Until recently, the property identified as the former North Plant of RSC had been occupied by the Service Chemical Supply Company (SCSC), whose primary operations involved acid repackaging. During its operation from October 1986 to

mid-1990, SCSC leased space at the former RSC North Plant from Charles and David Trombold, owners of the former RSC and the current operators of the HRI-Wichita facility. Although SCSC did not handle or process hazardous waste, spent solvent distillation processing and drummed waste storage was conducted by RSC at the North Plant between 1981 and 1984. SCSC, now a defunct company, is in the process of demolishing and removing remaining equipment from the North Plant property. A formal closure plan has not been prepared for the removal operations currently being conducted by SCSC.

With regard to environmental setting of the HRI facility, the terrace and alluvial deposits which regionally underlay the area are widely used as a source of ground water (Bevans, 1989). Regional ground water flow is primarily to the south in the vicinity of the HRI facility (Bevans, 1989). Wells within a one-mile radius of the HRI facility are utilized for ground water monitoring, industrial water usage, and domestic supply which is generally limited to lawn and garden irrigation.

The Wichita North Industrial District (WNID), an area which includes the HRI facility, has become the subject of an ongoing remedial investigation (RI). Within the WNID, volatile organic compounds (VOCs) have been reported as the most wide spread contaminant (HWS, 1989). VOCs have been detected in samples collected from two monitoring wells located on the HRI facility property, two monitoring wells located on the former RSC North Plant property, three monitoring wells located on the Derby Refinery property south and west of the HRI facility, and in a domestic well located approximately 1,400 feet southeast of the HRI facility (see subsection 2.6). Some of the VOC contaminants detected in ground water samples collected from these wells are compounds or degradation products of waste compounds handled and processed by HRI.

The history of releases for the SWMUs and areas of concern identified during the PR and VSI indicate areas of contamination may exist due to storage of deteriorated drums in an open area north and east of Building I (USEPA, 1984). An empty 500-gallon above ground acid storage tank, previously used for acid repackaging, is still in place behind Building I. Four 5,000-gallon storage tanks were recently "cut

up" for scrap metal and removed from the northeast corner of the North Plant property (VSI, 1990). During the VSI, areas of soil staining were noted along the fence line which separates the North Plant property from an open drainageway. This drainageway receives surface water runoff from the north plant and the Union Pacific Railroad property to the north. Distressed vegetation, primarily dead trees and brush, were observed along the south bank of the drainageway (VSI, 1990).

A debris-filled concrete vault with approximate dimensions of 20 feet by 20 feet by 8 feet in depth is located in the northwest corner of the former RSC North Plant. This vault was previously utilized for cooling water discharge from a condenser during solvent distillation processing (USEPA, 1984). The concrete vault was observed during the VSI to be structurally damaged by vertical fracturing and "etching" of the sidewalls (due to some unknown previous discharge). Several tanks used in distillation processing were previously located south of the concrete vault.

5.2 CONTAMINANT MIGRATION AND POTENTIAL RECEPTORS

The area which surrounds the HRI facility is zoned industrial and there are no residences within 800 feet of the facility. A number of industries border or operate within 500 feet of the HRI property. Union Pacific Railroad operates a rail yard and truck line facility north of HRI. Derby Refinery maintains numerous above ground storage tanks (50,000 gallons or more). Interstate 135, an elevated expressway, parallels New York Street east of HRI. A channelized portion of the East Fork of Chisolm Creek flows between New York Street and the right-of-way for Interstate 135.

The following subsections discuss the various media potentially impacted by contaminant release at the facility.

5.2.1 Soil

Several gravel cover and bare ground areas of the HRI facility have been utilized in the past, or are currently utilized for waste handling activities. In the past, drums were stored south of Building C. In addition, the southwest corner of the facility has been utilized for empty drum, used tire, and scrap metal staging and storage. The

southwest corner of the facility is also trafficked by tractor trailer trucks transporting drummed wastes. Two 500-gallon above ground vehicle fueling tanks are currently utilized in the south central portion of the facility. Two roll-off boxes are currently located immediately south of Building D. These roll-off boxes are utilized for accumulating solvent-rinsed crushed drums. A dry solids "gondola" is staged south of the drum storage warehouse.

Soil samples were collected by KDHE during a July 1987 inspection of the facility. Two surface soil samples were taken immediately south of the central portion of the drum storage warehouse. No volatile organic compounds were detected above detection limits in the samples. Additionally, no metals were detected at significant levels. No soil samples have been collected from other open areas of the HRI facility.

Areas surrounding and north of Building I at the former RSC North Plant have been utilized for above ground tank and drum storage. There was visible evidence during the VSI that soils have been impacted due to past waste management practices at the North Plant. In particular, areas of soil staining and distressed vegetation were observed (as described in subsection 4.23.3).

5.2.1 Ground Water

The characterization of ground water resources, usage, and quality is discussed in detail in subsection 2.5 and 2.6. Domestic use wells are located southeast of the HRI facility (see Figure 2-3) are utilized for lawn and garden irrigation. The nearest of these wells to HRI is approximately 1,000 feet east of the HRI property.

5.2.1 Surface Water

HRI personnel reported during the VSI that there is no storm drainage system currently in place which collects storm water runoff across the facility. The surface drainage pattern at the facility directs flow off the HRI property to eventually discharge to tributaries of Chisolm Creek. The drainageway which separates the Union Pacific property and the former RSC North Plant property collects surface runoff from this area and discharges to the channelized portion of the East Fork of

Chisolm Creek immediately east of New York Street (see Figure 2-2). The East Fork, in turn, discharges to the Wichita Drainage Canal, 4,000 feet south of the facility.

5.2.1 Air

Waste processing is conducted in the northcentral portion of the HRI facility and VOCs may become airborne during these operations. Potential direct contact and inhalation exposures would generally be limited to onsite personnel.

5.2.1 Subsurface Gas

In 1986, KDHE conducted a soil gas investigation to determine the areal extent and relative magnitude of volatile organic contamination affecting ground water in a portion of the Wichita North Industrial District. A total of 62 soil gas samples were collected during this investigation which were analyzed for seven VOCs (KDHE, 1989). Trichloroethylene was the only contaminant detected among the soil gas sample analyses performed for samples collected within the vicinity of the HRI facility. Trichloroethylene was detected at a concentration of 0.001 ug/l in a sample collected northeast of Building J on the former RSC North Plant property.

5.3 RECOMMENDATIONS FOR FURTHER ACTION

A closure plan should be prepared for the former RSC North Plant property to ensure proper clean-up. This closure plan should be prepared to meet all KDHE requirements for closure. In conjunction with the closure and any sampling conducted by the owner of the property in association with this closure, soil sampling should be conducted by USEPA as a part of this RFA. Soil samples should be collected from the open areas north and east of Building I, in the vicinity of the concrete vault, and the area in which the distillation processing tanks were previously located south of the concrete vault. In addition, ground water samples should be collected from the two monitoring wells located in this area. Complete well construction details should be obtained in conjunction with sampling.

Although background levels may be difficult to determine, contaminant migration from potential source areas of contamination at the HRI facility should be assessed.

Local hydrogeologic data and ground water sample analysis data collected during the Wichita North Industrial District RI may be used to assist in assessing the potential for contaminant migration from the HRI facility. Specific usage for the nearby domestic wells should also be determined.

In addition, a §3077 Request for Information Letter should be forwarded to HRI in order to fill data gaps remaining following the PR and VSI. In addition to specific questions regarding waste handling procedures and construction details at a SWMU or area of concern, a request should be made for a comprehensive storm water and wastewater utilities diagram. This diagram should detail all existing lines and tie-ins to these lines for the current HRI facility and the former RSC North Plant property. The letter should also request information regarding the destination and fate of all wastes transported from the facility.

TABLE 5-1 SUMMARY OF RECOMMENDATIONS

Solid Waste Management Unit or Area of Concern:	Summary of Recommendations:
1. Process Area Storage Tanks	HRI has reported that annual ultrasonic thickness testing is performed on these tanks, as well as periodic visual inspections. Only compatible wastes are stored in these tanks. The tanks are also equipped with spill and overfill controls. If not currently conducted, inspection of all piping associated with the Process Area storage tanks should be performed annually and documented.
2. Waste Blending and Drum Processing Area	The waste blending and drum processing area operates in substantial compliance with applicable RCRA regulations. Waste releases in this area can be retained by the containment controls in place.
3. Former Drum Processing Area	This area was closed under a KDHE approved closure plan in 1988. Analytical results for samples collected during closure should be reviewed.
4. Process Area Truck Bay	Any wastewater pumped to one of two storage tanks in Building D from the holding sump is currently identified a F-listed wastewater. The potential exists for HRI to perform vehicle washdown in this area. Usage of the power washer located in truck bay area should be limited to washdown of the Process Area.

TABLE 5-1 SUMMARY OF RECOMMENDATIONS (Continued)

Solid Waste Management Unit or Area of Concern:	Summary of Recommendations:
5. Sparging Area	Open drums utilized to collect liquid under the steam condensate line for each sparging unit when in operation should be labeled as F-listed wastewater. Drums used for accumulation of sparged filter wastes (i.e. filter paper, carbon) should also be labeled appropriately when staged in the sparging area.
6. Hot Room	No further action is required as apart of the RFA process. This unit should be inspected annually as a part RCRA Compliance Inspections for the facility.
7. Elevated Tank Storage Area	HRI has reported that annual ultrasonic thickness testing is performed on these tanks, as well as periodic visual inspections. Only compatible wastes are stored in these tanks. While the elevated tank storage area within Building D is equipped with secondary containment, piping passing through Building D to the Process Area is not equipped with secondary containment. Secondary containment measures should be implemented which would retain any release from the piping.
8. Nonregulated Waste Storage Area	The entire area designated for nonregulated waste storage should be bermed.
9. Solids Dryer Area	The area should be provided with containment measures once the unit becomes operational.

TABLE 5-1 SUMMARY OF RECOMMENDATIONS (Continued)

Solid Waste Management Unit or Area of Concern:	Summary of Recommendations:
10. Drum Crusher	Although a concrete pad underlies the drum crushing unit, any waste residues released from the drum crusher would not be contained and may run onto the gravel area immediately south of the drum crusher. A berm and containment sump should be installed to enclose the drum crusher.
11. Crushed Drum Roll-Off Boxes	The roll-off boxes and the traffic area between the drum crusher and the roll-off boxes should be underlain with a bermed concrete pad equipped with a ramp.
12. Warm Room	Ventilation equipment should be installed within the Warm Room to evacuate vapors which accumulate within the room when the door is closed.
13. Dock Area	Adequate aisle space and incompatible waste segregation should be maintained when moving drums into and out of this area.
14. Drum Storage Warehouse (Building C)	The drum storage warehouse is in substantial compliance with applicable RCRA regulations.
15. Corrosive Waste Storage Area	All portions of Building B utilized for solid and liquid hazardous waste storage should be provided with containment measures
16. Dry Solids Gondola	The area underlying the dry solids gondola should be provided with a bermed concrete pad equipped with a ramp.

TABLE 5-1 SUMMARY OF RECOMMENDATIONS (Continued)

Solid Waste Management Unit or Area of Concern:	Summary of Recommendations:
17. Laboratory Sample Storage Area	Incompatible wastes should be segregated in separate containment areas within the sample storage area.
18. Vehicle Fueling Tanks	The vehicle fueling tanks should be provided with appropriate containment measures to contain spills.
19. Open Area Along Southwest Corner	Drummed waste should remain prohibited from being stored in this area to prevent potential waste releases to bare ground.
20. Building J	If Building J is to be utilized for future storage of household wastes, containment measures and ventilation equipment should be installed.
21. Building I	A closure plan should be prepared for future demolition and removal operations in and around Building I. Soil samples should be collected by USEPA as a part of this RFA in conjunction with a KDHE-approved closure plan. Samples should be collected from the area east of Building I where the solvent distillation processing tanks were previously located.

TABLE 5-1 SUMMARY OF RECOMMENDATIONS (Continued)

Solid Waste Management Unit or Area of Concern:	Summary of Recommendations:
22. Concrete Vault	Past usage of the vault (basin), particularly by the Enmar Paint Company, should be investigated. As a part of the closure plan for removal operations around Building I, samples should also be collected from the area around the debris-filled concrete vault. An attempt should be made to characterize the debris in the vault.
23. Open Area North of Building I	A closure plan should be prepared for future removal operations north of Building I and the northeastern corner of the north plant. Soil samples should be collected by USEPA as a part of this RFA in conjunction with a KDHE-approved closure plan. Samples should be collected from the area of surface staining northeast of Building I and the area encompassing northeastern corner of the north plant.

6.0 REFERENCES

Bevans, Hugh E., 1989. "Water Resources of Sedgwick County, Kansas". U.S. Geological Survey Water-Resources Investigation Report 88 - 4225. 1989.

CSI, 1985. Amended RCRA Hazardous Waste Notification and Part A Permit for Conservation Services, Inc. September 27, 1985.

HRI, 1988. Partial Closure Plan. Hydrocarbon Recyclers, Inc. April 1988.

HWS, 1989. "Wichita North Industrial District, Phase I, Part 1 - Initial Site Assessment". HWS Technologies Inc. February 24, 1989.

KDHE, 1981. RCRA Compliance Inspection Report, Reid Supply Company. October 5, 1981.

KDHE, 1988. "RCRA Compliance Inspection Report" Kansas Department of Health and Environment. July 28, 1988.

KDHE, 1989a. "RCRA Compliance Inspection Report" Kansas Department of Health and Environment. June 21, 1989.

KDHE, 1989b. Correspondence from Martin L. West, Environmental Engineer, Hazardous Waste Section, Bureau of Waste Management, Kansas Department of Health and Environment to Mr. David Trombold, Hydrocarbon Recyclers, Inc. May 5, 1989.

Lane, Charles W. and Don E. Miller, 1965. "Geohydrology of Sedgwick County, Kansas". State Geological Survey of Kansas Bulletin No. 176. December 1965.

NOAA, 1988. "1988 Local Climatological Data; Annual Summary with Comparative Data, Wichita, Kansas." National Oceanic and Atmoshperic Administration. 1988.

RSC, 1981. RCRA Part A Hazardous Waste Permit Application for Reid Supply Company. July 28, 1981.

RSC, 1982. RCRA Part A Hazardous Waste Permit Application for Reid Supply Company. November 5, 1982.

Trombold, David G., 1984. RCRA Part B Permit Application for Reid Supply Company, Wichita, Kansas. December 6, 1984.

USDA, 1976. "Soil Survey of Sedgwick County, Kansas". U.S. Department of Agriculture - Soil Conservation Service. April 1976.

USEPA, 1984a. Report of RCRA Compliance Inspection at Reid Supply Company, Wichita, Kansas. U.S. Environmental Protection Agency. April 5-6, 1984.

USEPA, 1984b. Memorandum: "Reinspection at Reid Supply Company, Wichita, Kansas, to determine compliance with state order (RCRA). U.S. Environmental Protection Agency. July 26, 1984.

USEPA, 1984c. "Part B Application Inspection Report". U.S. Environmental Protection Agency. October 30, 1984.

USEPA, 1986. RCRA Facility Assessment Guidance. U.S. Environmental Protection Agency. October 1986.

APPENDIX A

VISUAL SITE INSPECTION SUMMARY

APPENDIX A
VISUAL SITE INSPECTION SUMMARY

A.1 VISUAL SITE INSPECTION SUMMARY

A visual site inspection (VSI) of the Hydrocarbon Recyclers, Inc. (HRI), Wichita, Kansas facility was conducted on June 19, 1990. A summary of the items discussed during the VSI are included in this subsection. The VSI was conducted by Mr. John Nett, civil engineer, and Mr. Jerome Frizzell, environmental scientist, both with B&V Waste Science and Technology Corp (BVWST). Accompanying BVWST on the VSI were Mr. Mark Matthews from the RCRA Permits Section, USEPA Region VII and Ms. Brenda Clark from the Kansas Department of Health and Environment, Topeka office.

The VSI commenced at the HRI facility at 8:30 a.m. with an initial meeting in the Administration Building (Bldg. E). Representing HRI at the meeting were Mr. Charles Tromold, General Manger, HRI--Wichita Facility; Mr. David Trombold, Sales Manager, HRI--Wichita Facility; and Ms. Catherine Orban, Permit Writer, HRI--Tulsa Headquarters. The initial meeting involved an explanation of the RCRA Facility Assessment process and a review of preliminary identified SWMUs and areas of concern. HRI personnel provided background information regarding current and historical facility operations. Property adjacent to the facility on which the former Reid Supply Company operated (and subsequently the Service Chemical Supply Company), was also discussed.

Following discussion with HRI personnel, the first of two tours was conducted. During the morning tour, photographs of various areas on the HRI property were taken by BVWST personnel. The location and subject of each photograph were documented by Mr. Nett, BVWST and Ms. Orban, HRI. All areas of the current HRI facility were inspected during the morning tour with the exception of the Break Room (Bldg. G) and the Foreman's Office (west half of Bldg. F). The morning tour concluded at the laboratory (Bldg. A) after observing the sample storage area and analytical equipment in operation. The group then broke for lunch at 12:15 p.m.

Following lunch, an inspection of the adjacent property (former Service Chemical Supply Company) was conducted. Photographs of Buildings 17 and 18 were taken,

as well as photos of equipment removal operations in progress (conducted by Service Chemical Supply Company personnel), and out-of-service items on the property.

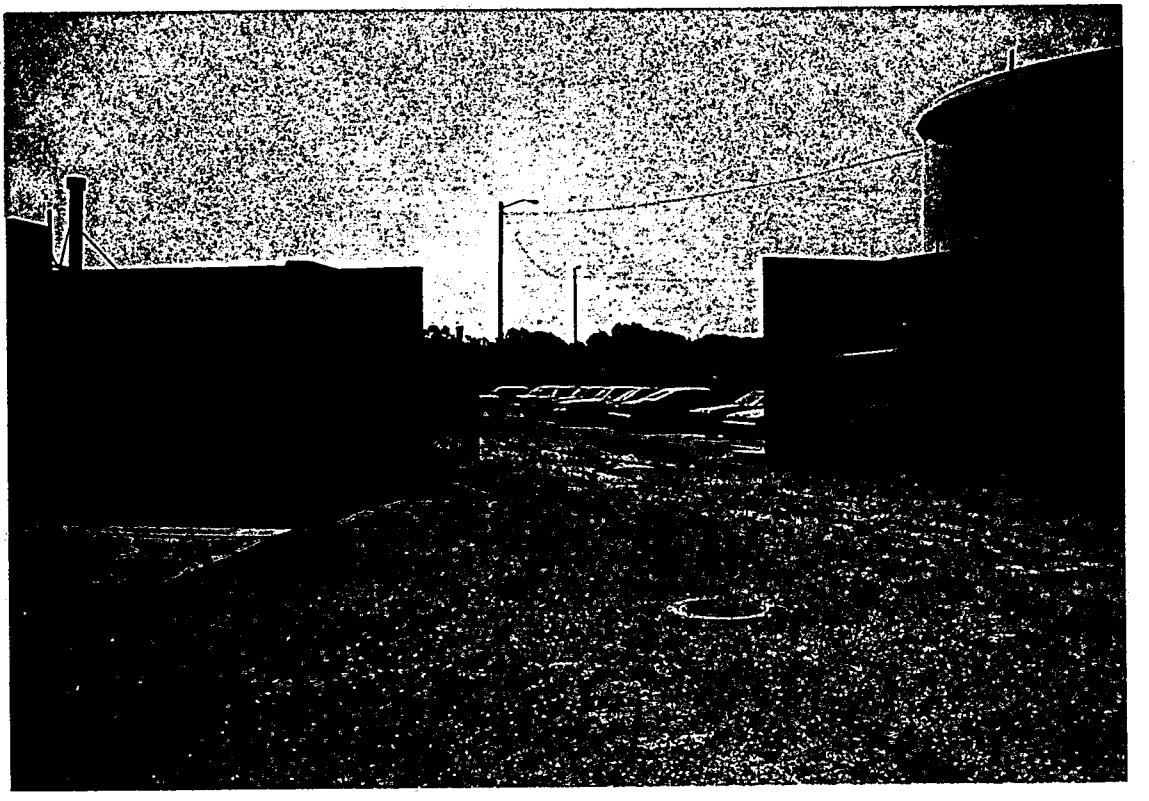
At the completion of the afternoon tour, the inspection group returned to the Administration Building. A follow-up meeting was conducted and additional questions were posed to HRI personnel. Ground water sampling analytical data was obtained for samples taken from HRI and adjacent monitoring wells during the past two years. The VSI concluded at 2:15 p.m.

A.2 PHOTOGRAPHIC SUMMARY

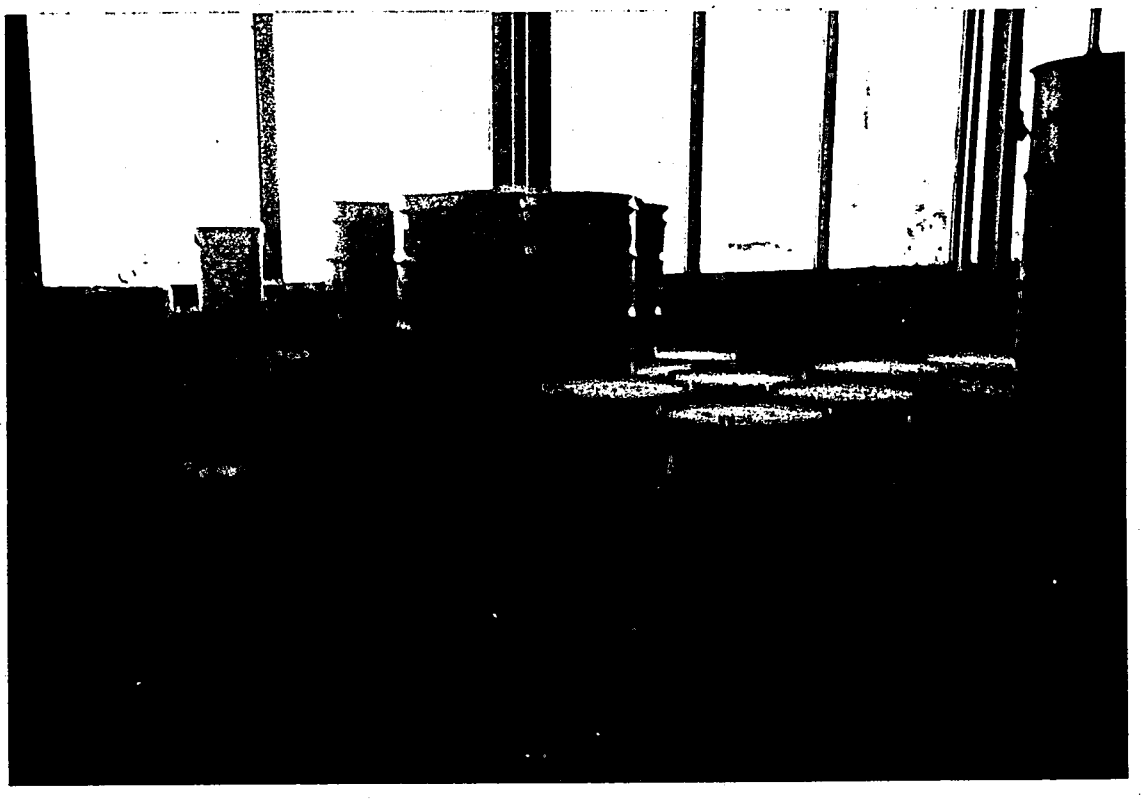
Prints of the photographs taken during the VSI are included in Appendix B.

APPENDIX B

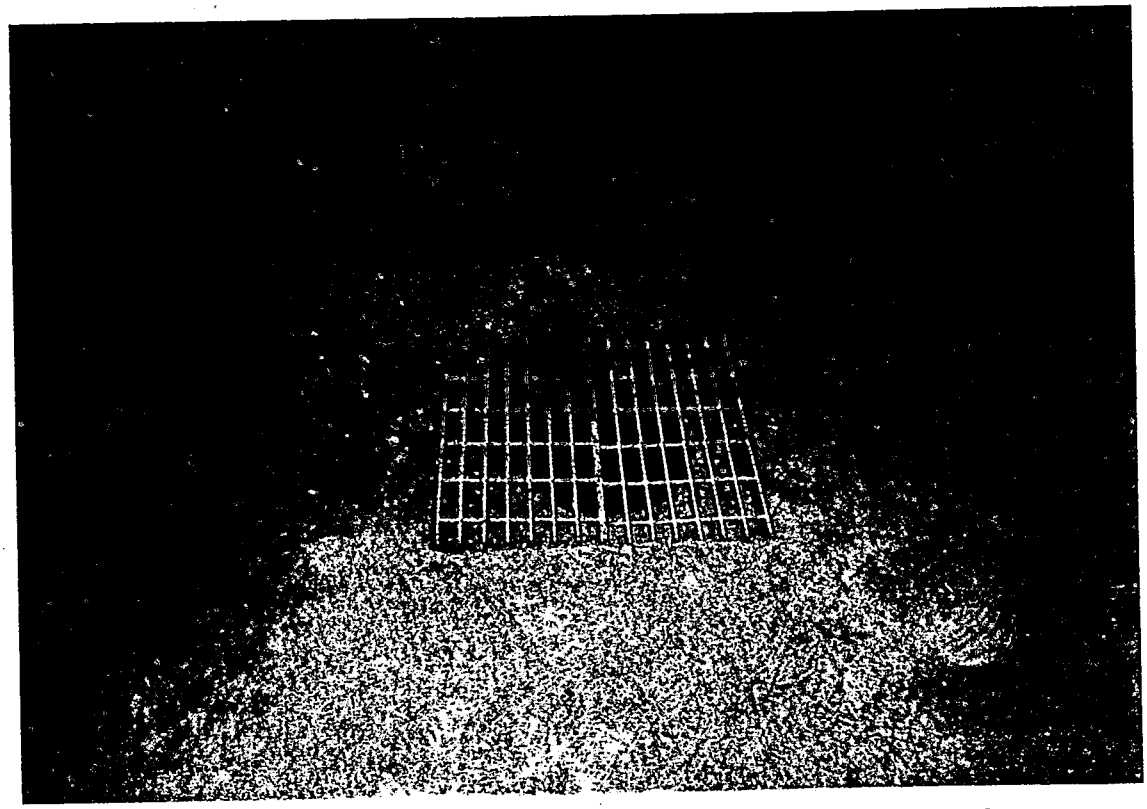
VISUAL SITE INSPECTION PHOTOGRAPH LOG



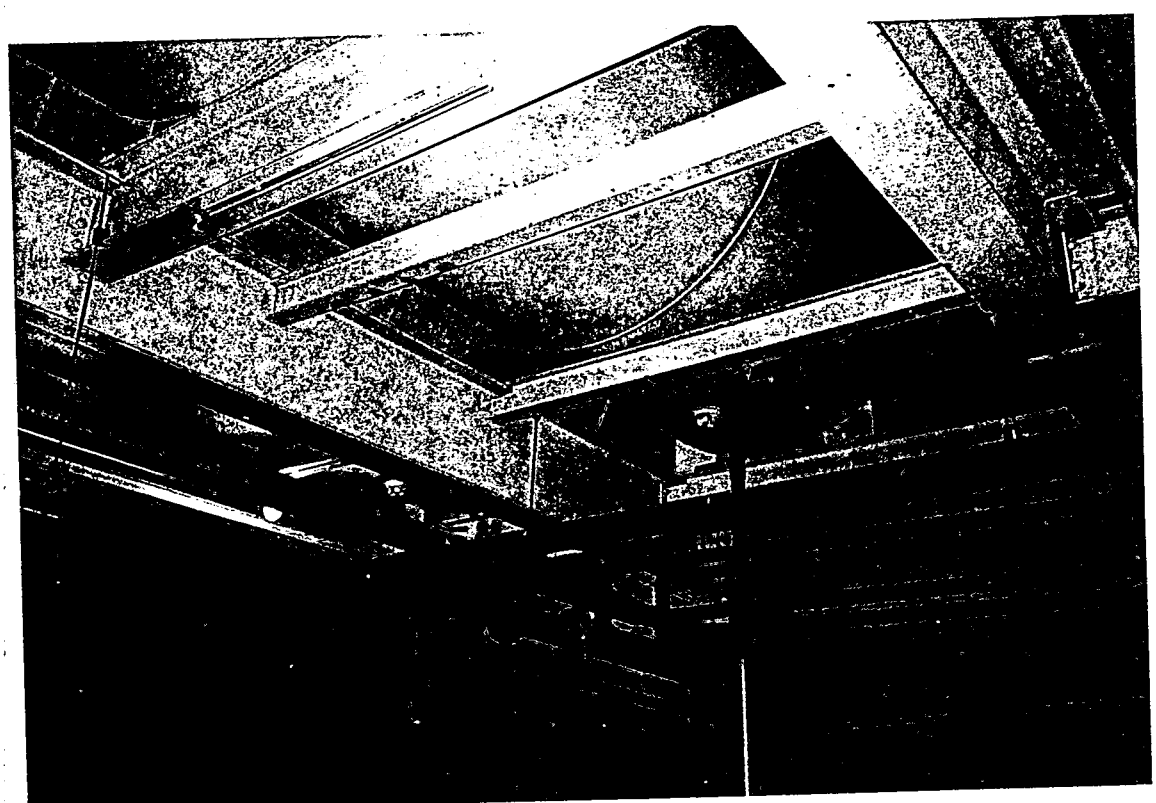
Film Roll No.: 1 Date: 6/19/90 Time: 1000
Exposure No.: 11 Photographer: JPN
VSI Observations: Entrance to HRI facility with Bldg. A on the right. View - SE



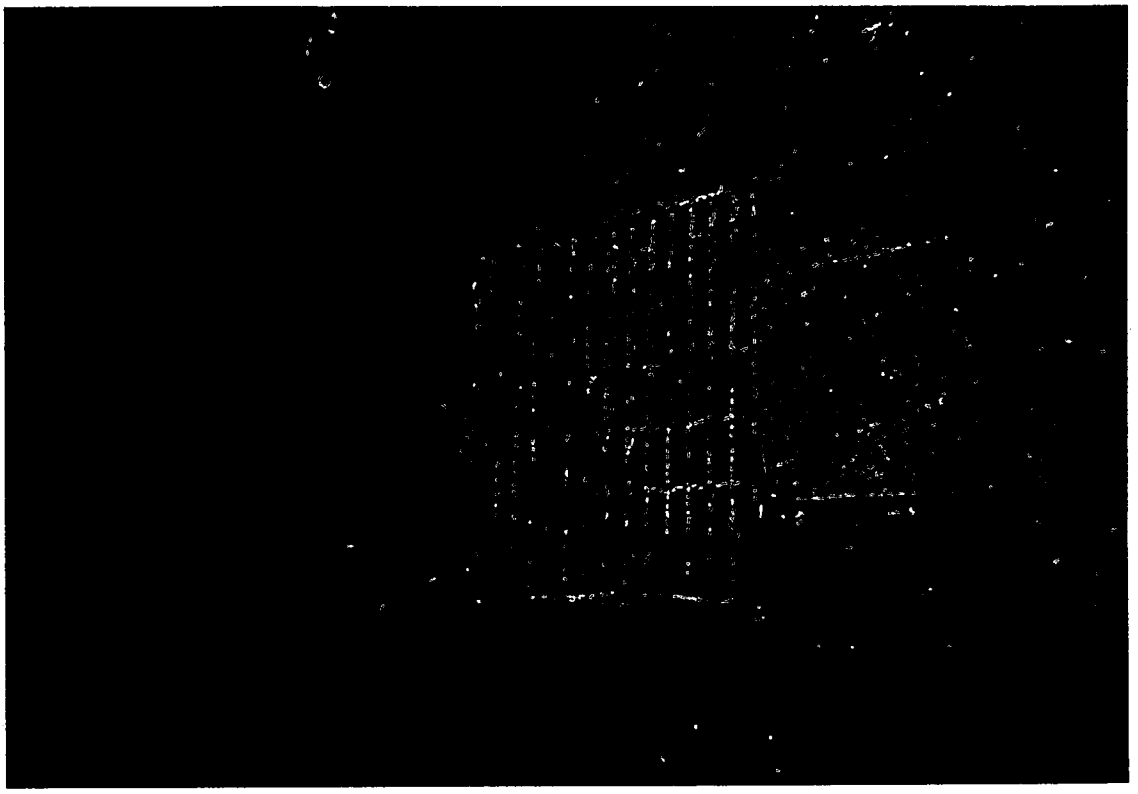
Film Roll No.: 1 Date: 6/19/90 Time: 1010
Exposure No.: 12 Photographer: JPN
VSI Observations: Storage of nonregulated (nonhazardous) waste; empty and reconditioned drums in Bldg. D, north portion. View - NE



Film Roll No.: 1 Date: 6/19/90 Time: 1012
Exposure No.: 13 Photographer: JPN
VSI Observations: Sump in elevated tank area, west end of Bldg. D.
View - E



Film Roll No.: 1 Date: 6/19/90 Time: 1015
Exposure No.: 14 Photographer: JPN
VSI Observations: Elevated storage tanks in Bldg. D. View - SW

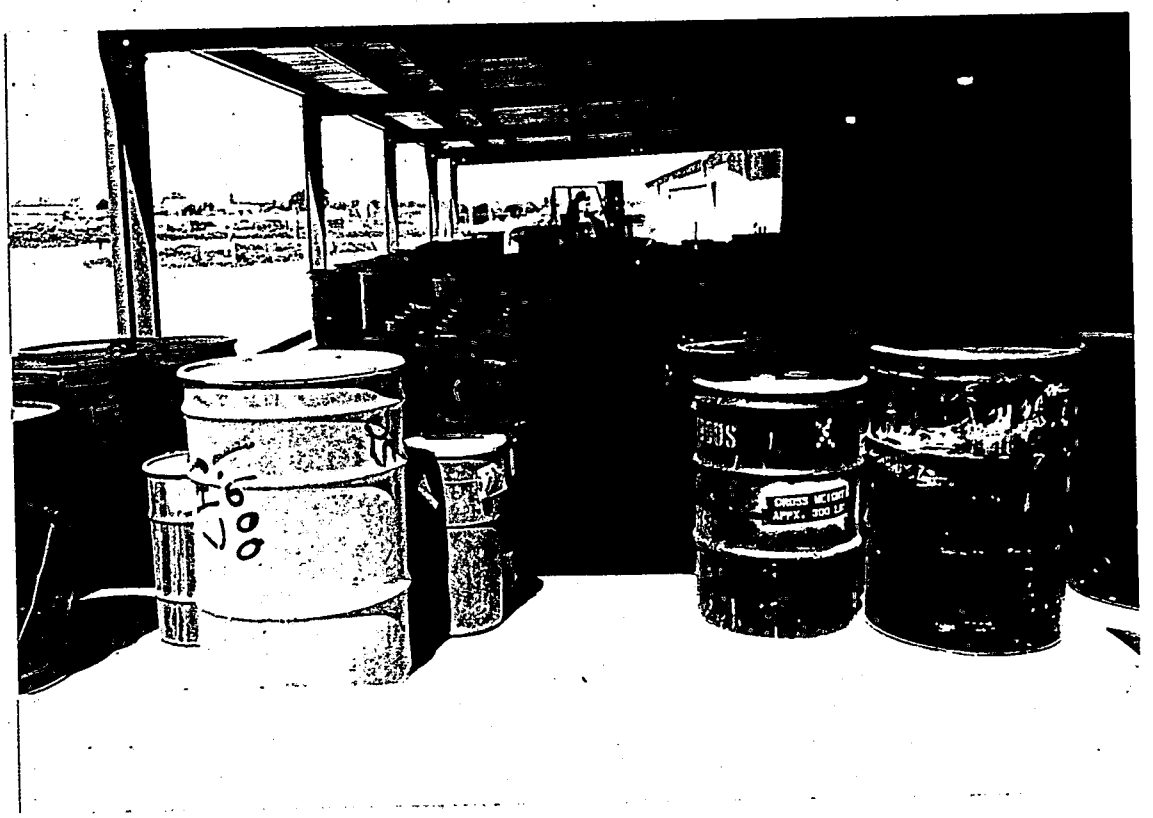


Film Roll No.: 1 Date: 6/19/90 Time: 1020
Exposure No.: 15 Photographer: JPN
VSI Observations: Sump in sparging area, Bldg. D. View - E

Film Roll No.: 1 Date: 6/19/90 Time: 1025
Exposure No.: 16 Photographer: JPN
VSI Observations: Trench drain sump in truck unloading bay, Process Area. View - W

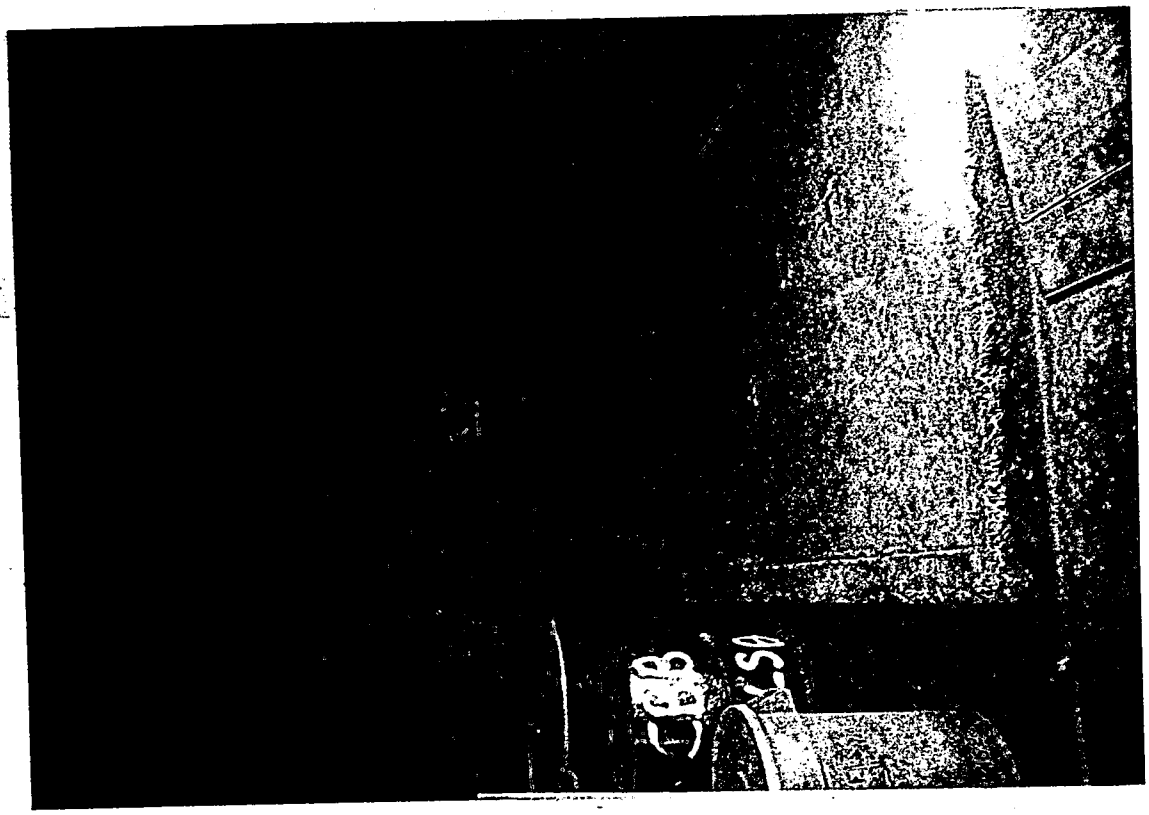
Film Roll No.: 1 Date: 6/19/90 Time: 1025
Exposure No.: 17 Photographer: JPN
VSI Observations: Storage tanks for flammable wastes, Process Area. View - N

Film Roll No.: 1 Date: 6/19/90 Time: 1025
Exposure No.: 18 Photographer: JPN
VSI Observations: Manifold for tanker truck loading/unloading to Process Area. View - N

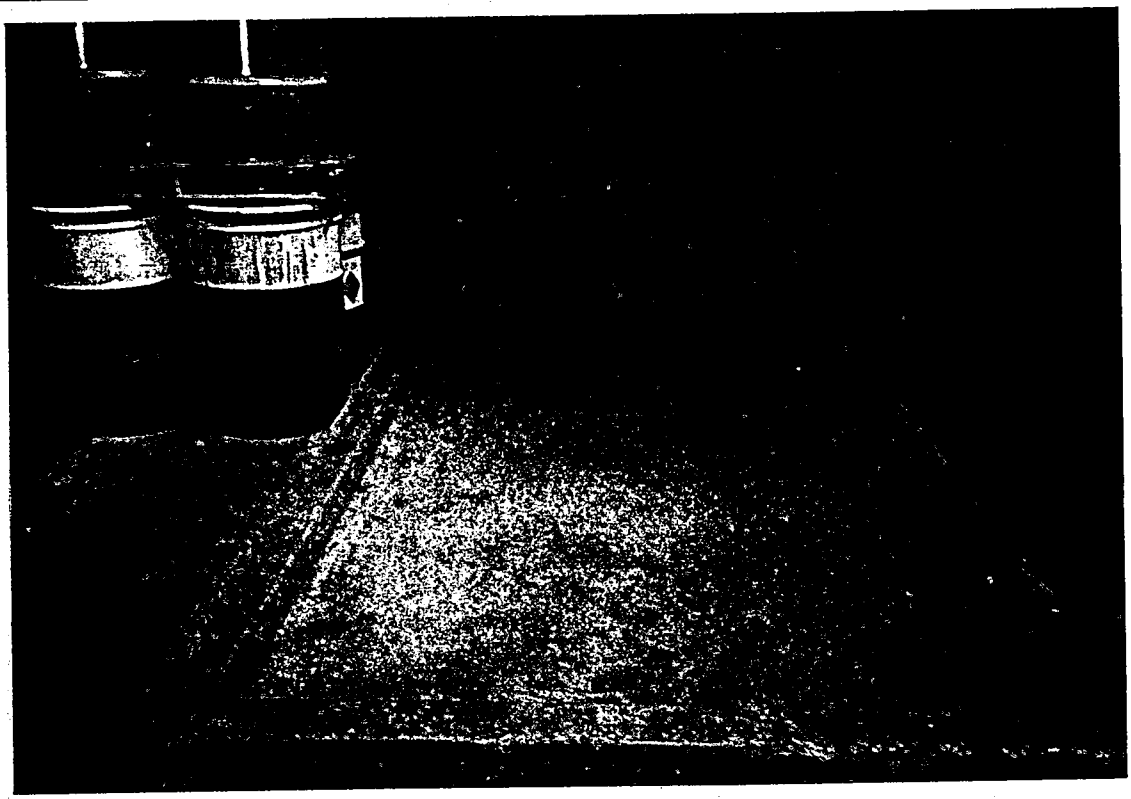


Film Roll No.: 1 Date: 6/19/90 Time: 1030
Exposure No.: 19 Photographer: JPN
VSI Observations: Drum staging area south side of Bldg. C. View - W

Film Roll No.: 1 Date: 6/19/90 Time: 1030
Exposure No.: 20 Photographer: JPN
VSI Observations: South central bay, Bldg. C. View - N



Film Roll No.: 1 Date: 6/19/90 Time: 1040
Exposure No.: 21 Photographer: JPN
VSI Observations: Diked incompatible waste storage area, northeast corner of Bldg. C. View - N



Film Roll No.: 1 Date: 6/19/90 Time: 1040
Exposure No.: 22 Photographer: JPN
VSI Observations: Diked incompatible waste storage area, northcentral portion of Bldg. C. View - N

Film Roll No.: 1 Date: 6/19/90 Time: 1042
Exposure No.: 23 Photographer: JPN
VSI Observations: Incompatible waste storage area, west end of Bldg. C - caustic corrosives. View - SW

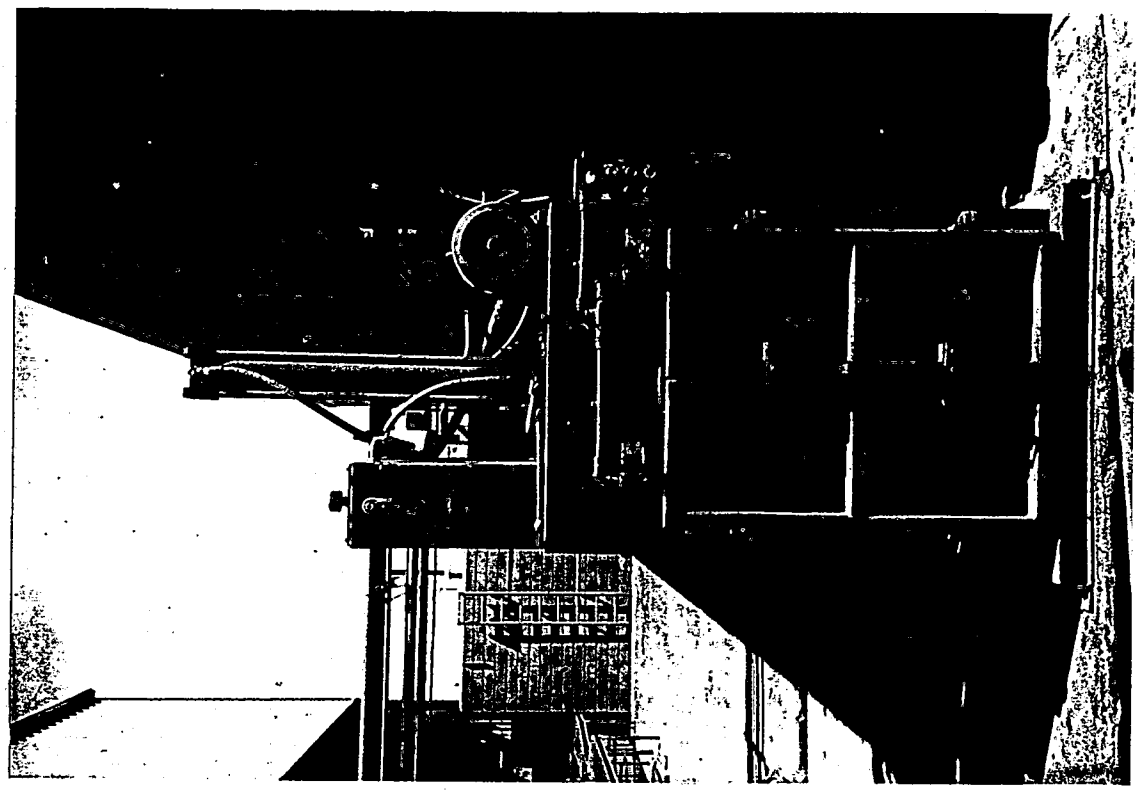
Film Roll No.: 1 Date: 6/19/90 Time: 1042
Exposure No.: 24 Photographer: JPN
VSI Observations: Incompatible waste storage area, West end of Bldg. C - acid corrosives. View - NW

Film Roll No.: 1 Date: 6/19/90 Time: 1115
Exposure No.: 25 Photographer: JPN
VSI Observations: Blind sump in Bldg. B. View - E

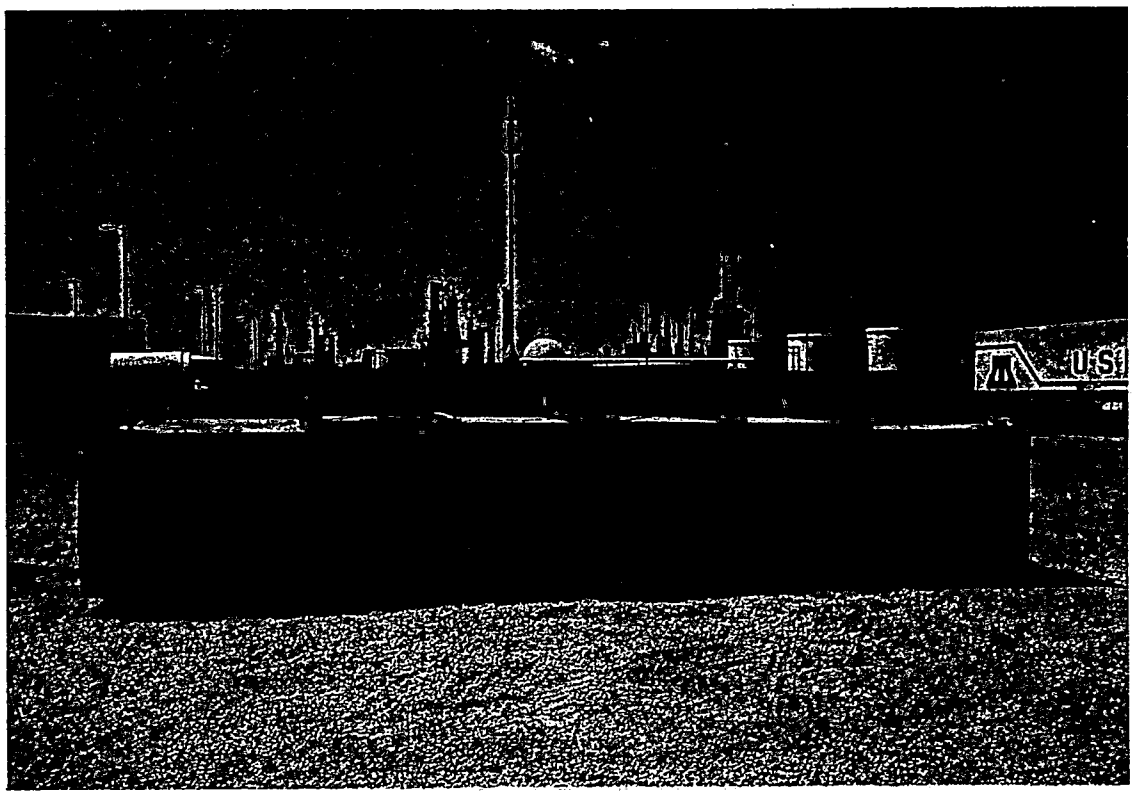
Film Roll No.: 2 Date: 6/19/90 Time: _____
Exposure No.: 1 Photographer: JPN
VSI Observations: Blind sump in Bldg. B (duplicate photo). View - E

Film Roll No.: 2 Date: 6/19/90 Time: 1120
Exposure No.: 2 Photographer: JPN
VSI Observations: Two roll-off boxes south of Bldg. D, crushed drum storage. View - N

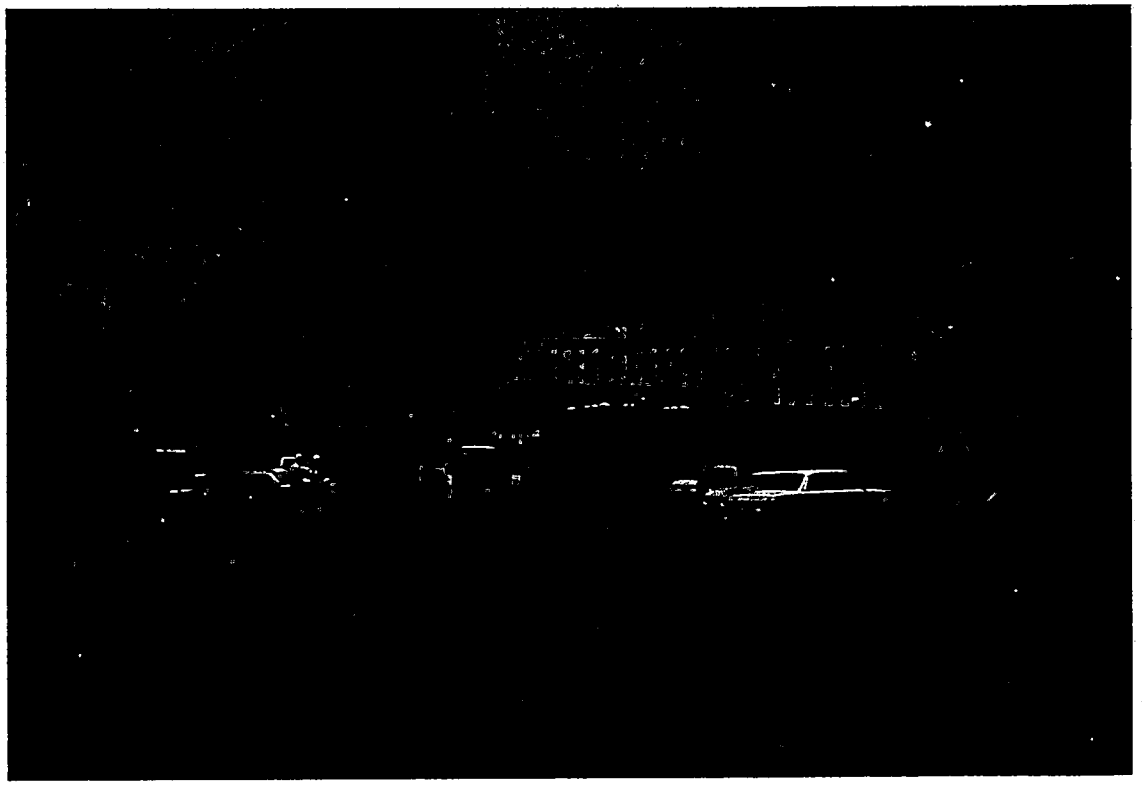
TOP



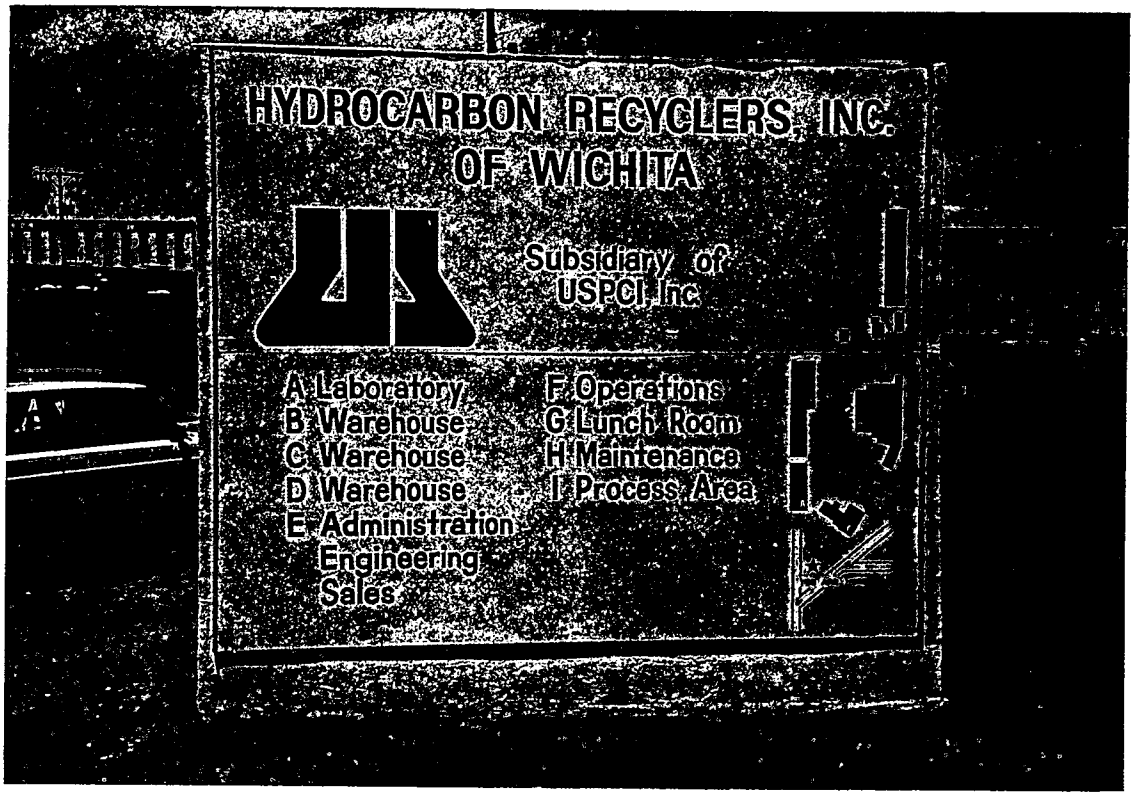
Film Roll No.: 2 Date: 6/19/90 Time: 1125
Exposure No.: 3 Photographer: JPN
VSI Observations: Drum crusher between Process Area and Bldg. D. View - N



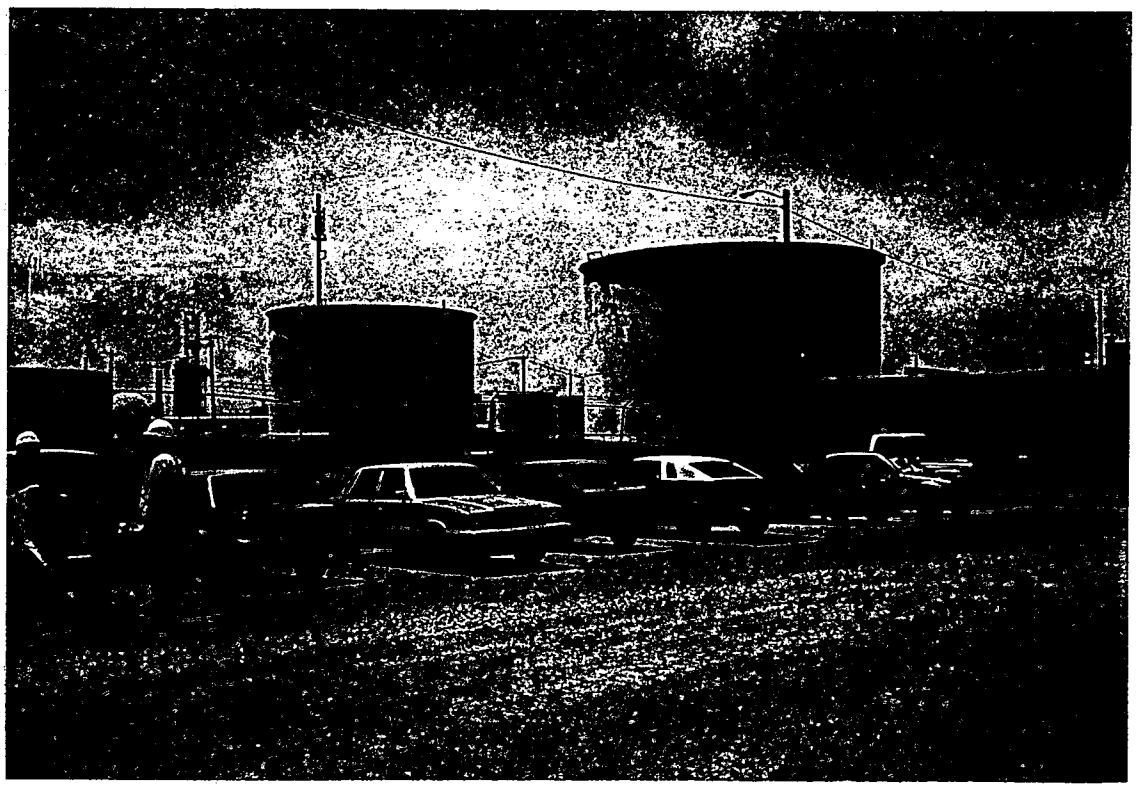
Film Roll No.: 2 Date: 6/19/90 Time: 1135
Exposure No.: 4 Photographer: JPN
VSI Observations: USPCI gondola for holding (accumulating) dry solids wastes (non-land-banned wastes) with vehicle fueling in left background. View - S



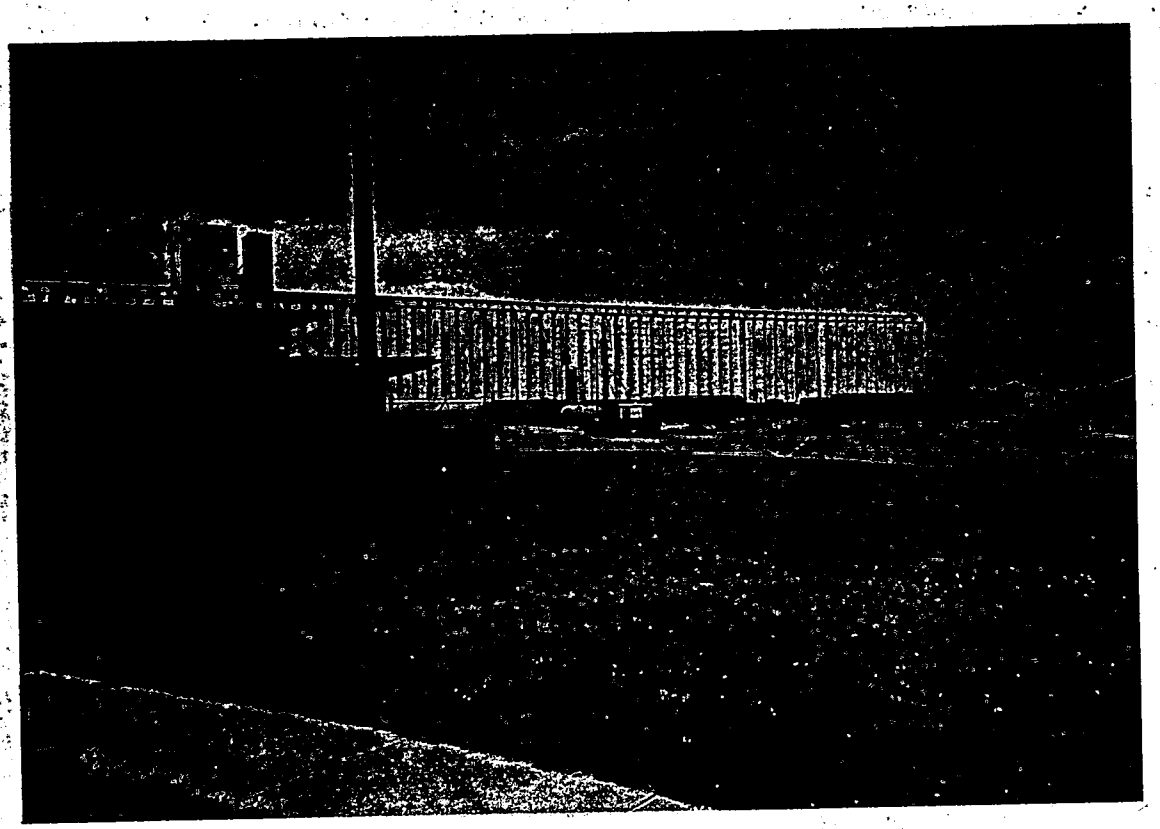
Film Roll No.: 2 Date: 6/19/90 Time: 1315
Exposure No.: 5 Photographer: JPN
VSI Observations: Entrance to HRI facility. View - W



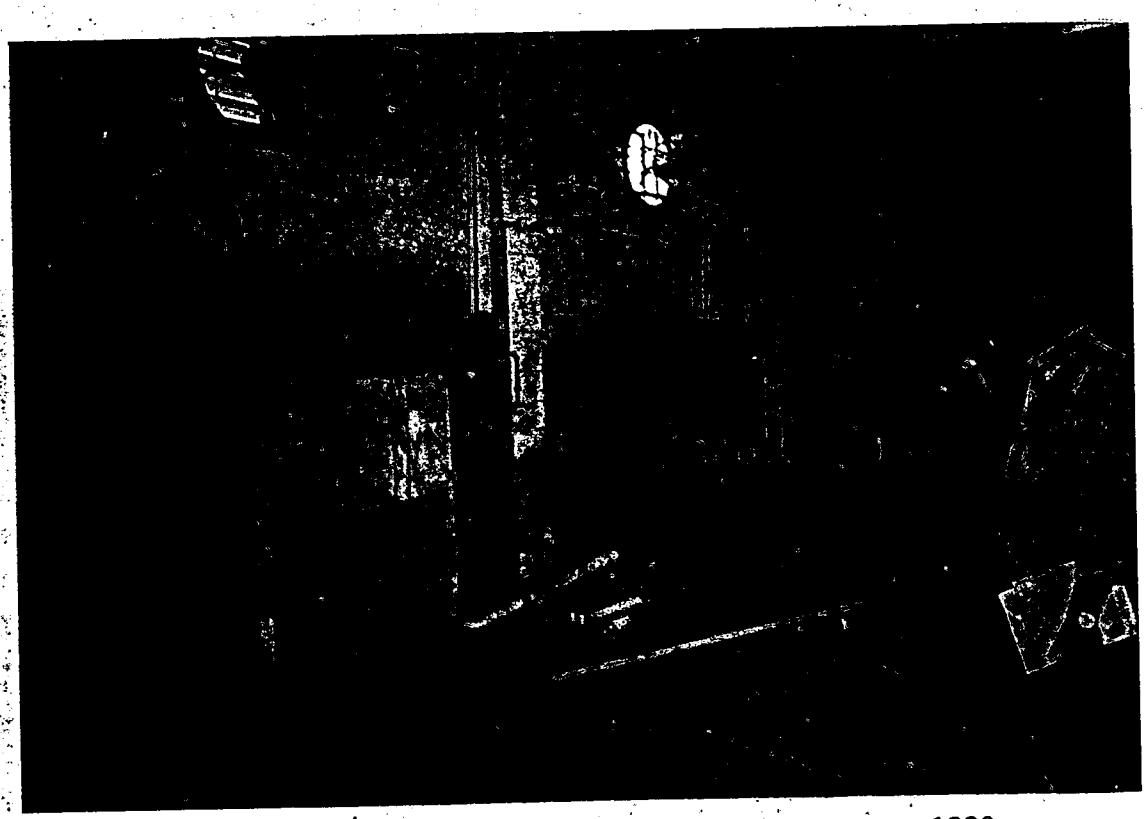
Film Roll No.: 2 Date: 6/19/90 Time: 1315
Exposure No.: 6 Photographer: JPN
VSI Observations: HRI facility sign. View - NW



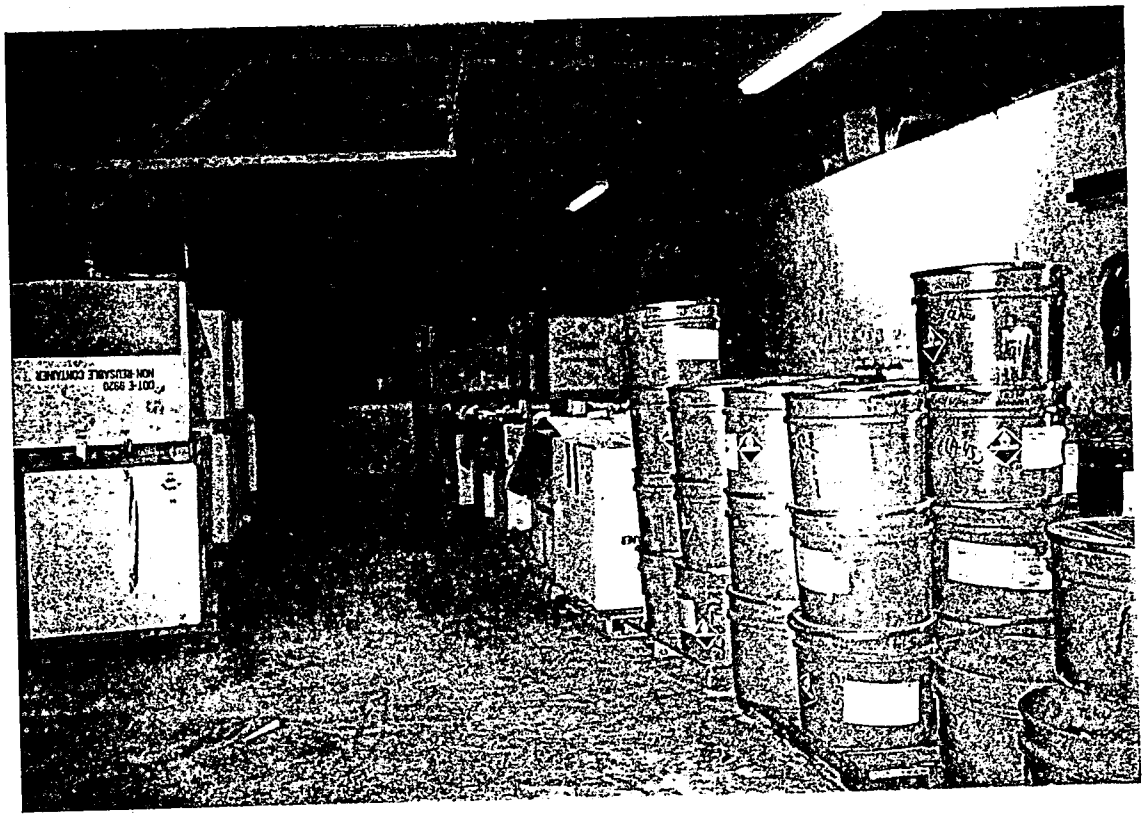
Film Roll No.: 2 Date: 6/19/90 Time: 1316
Exposure No.: 7 Photographer: JPN
VSI Observations: Derby Refinery property, south & west of HRI property. View - SW



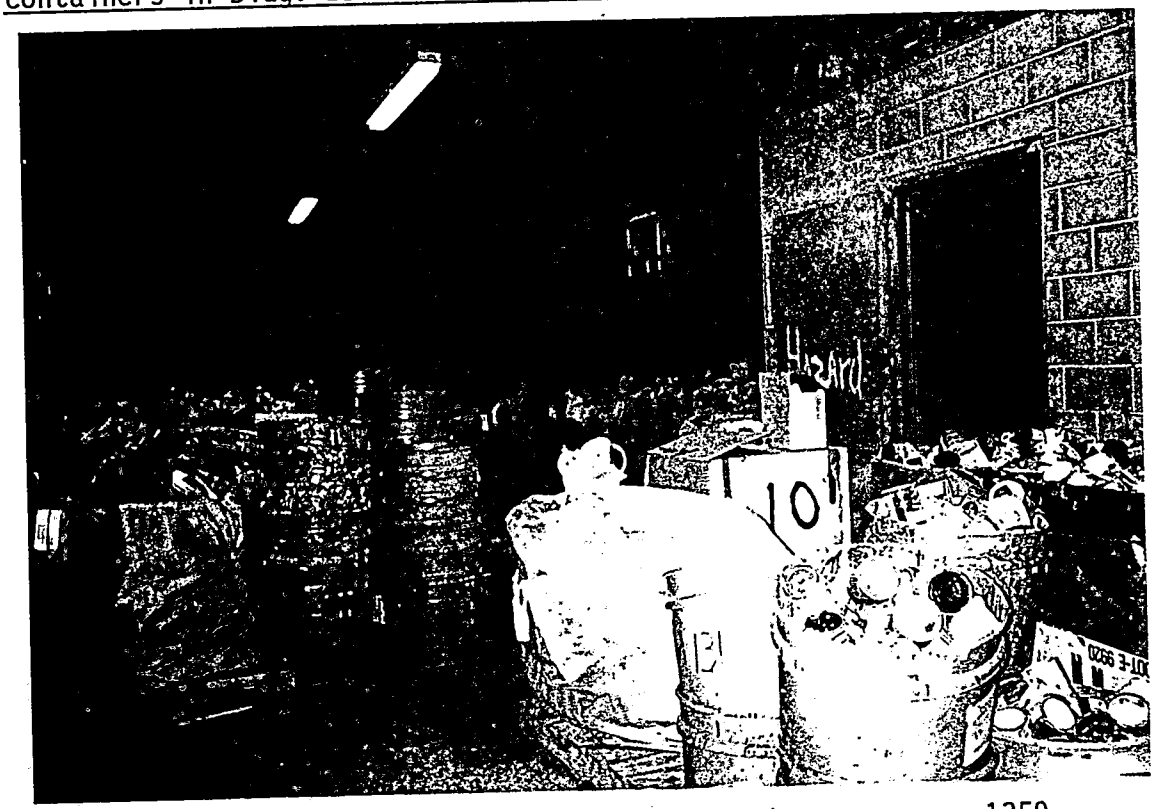
Film Roll No.: 2 Date: 6/19/90 Time: 1316
Exposure No.: 8 Photographer: JPN
VSI Observations: Union Pacific Railroad property, north of HRI property. View - NW



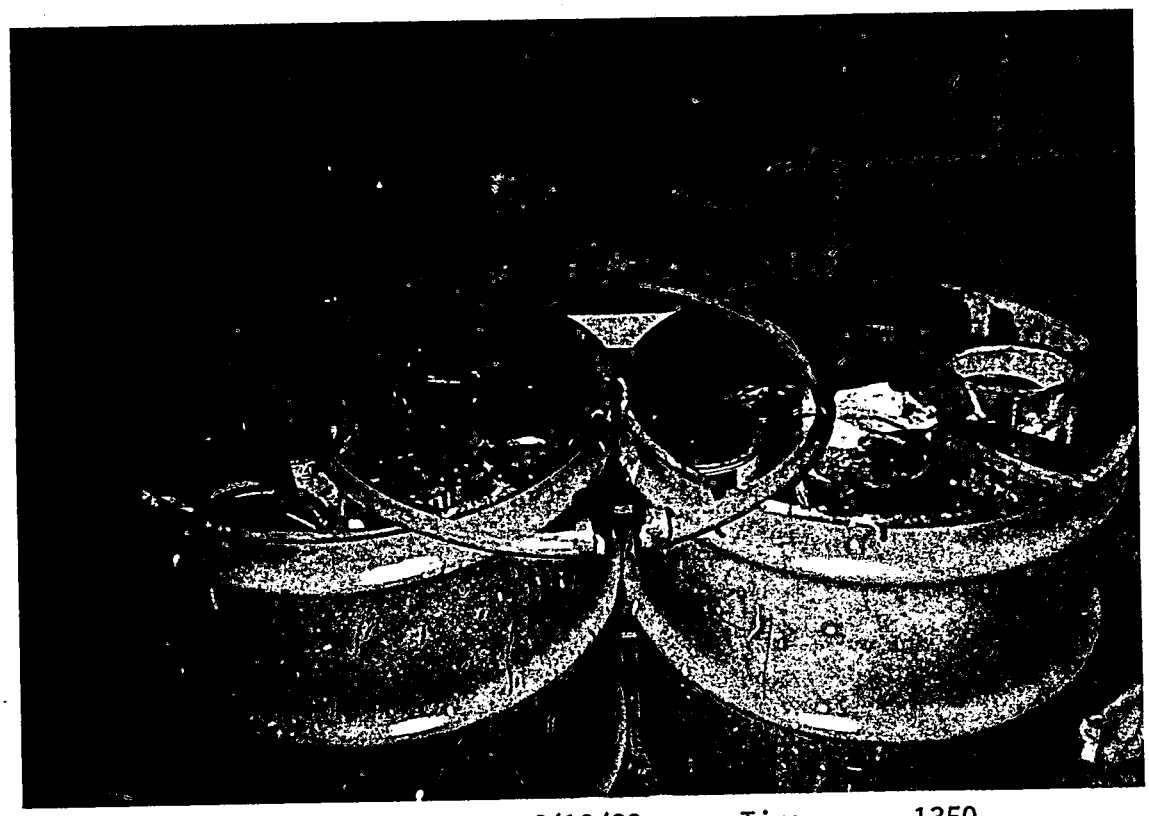
Film Roll No.: 2 Date: 6/19/90 Time: 1330
Exposure No.: 9 Photographer: JPN
VSI Observations: Out-of-service acid repackaging area for Service Chemical Supply Co., Building 17. View - NE



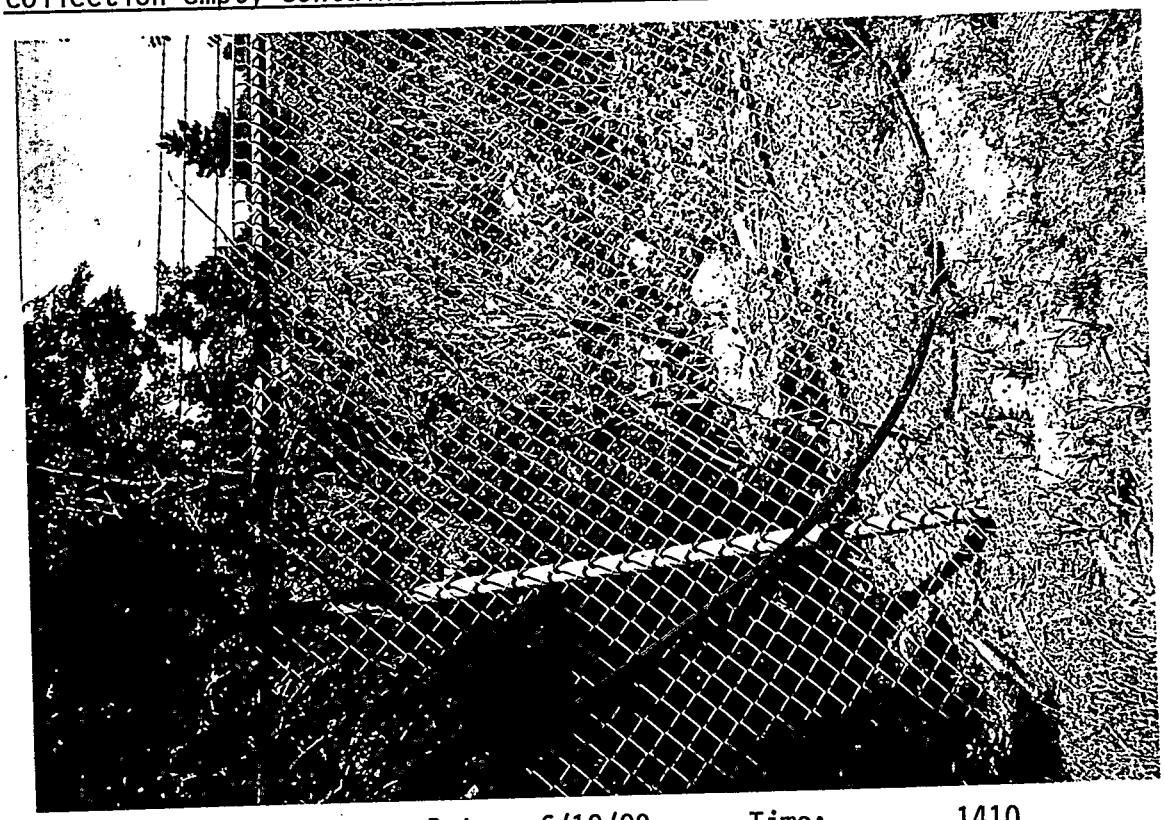
Film Roll No.: 2 Date: 6/19/90 Time: 1345
Exposure No.: 10 Photographer: JPN
VSI Observations: Household waste collection containers and empty containers in Bldg. 18. View - E



Film Roll No.: 2 Date: 6/19/90 Time: 1350
Exposure No.: 11 Photographer: JPN
VSI Observations: Household waste collection, 55-gallon lab packed drums and bagged containers. View - W

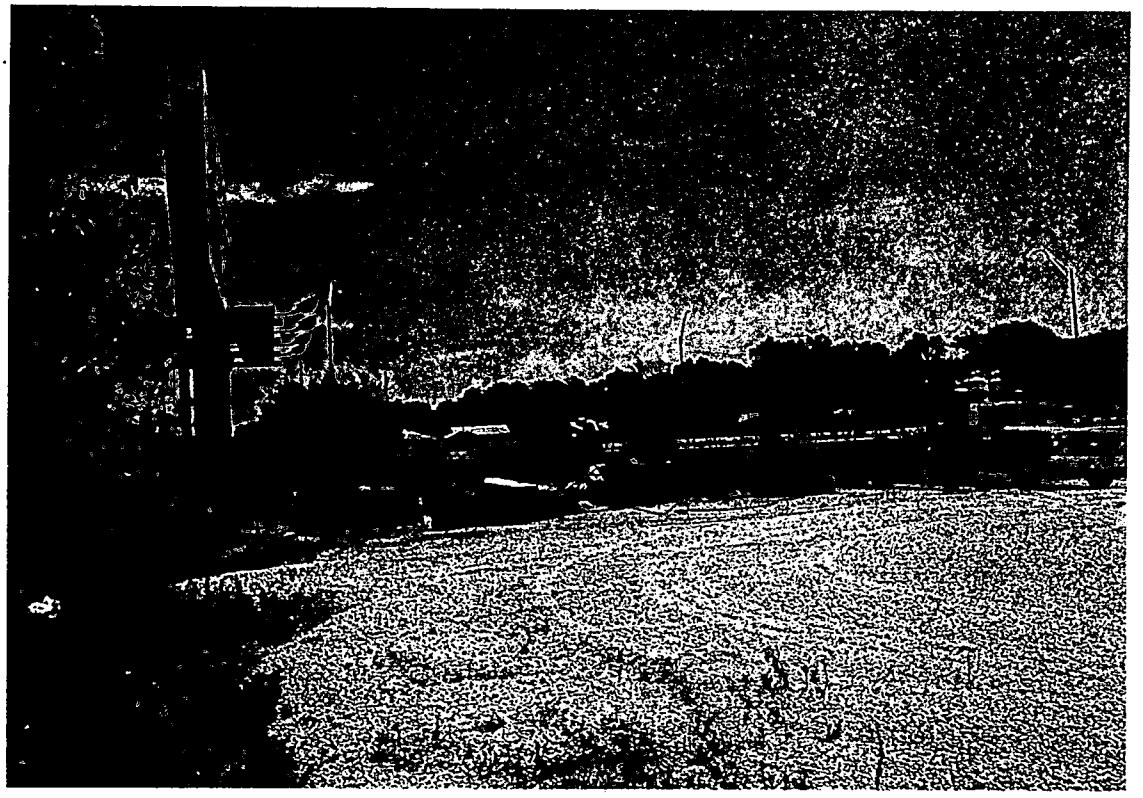


Film Roll No.: 2 Date: 6/19/90 Time: 1350
Exposure No.: 12 Photographer: JPN
VSI Observations: Open 55-gallon drums containing household waste collection empty containers. View - N



TOP

Film Roll No.: 2 Date: 6/19/90 Time: 1410
Exposure No.: 13 Photographer: JPN
VSI Observations: Drainageway between Service Chemical Supply Co. property and Union Pacific RR property. (Note surface staining in foreground). View - N

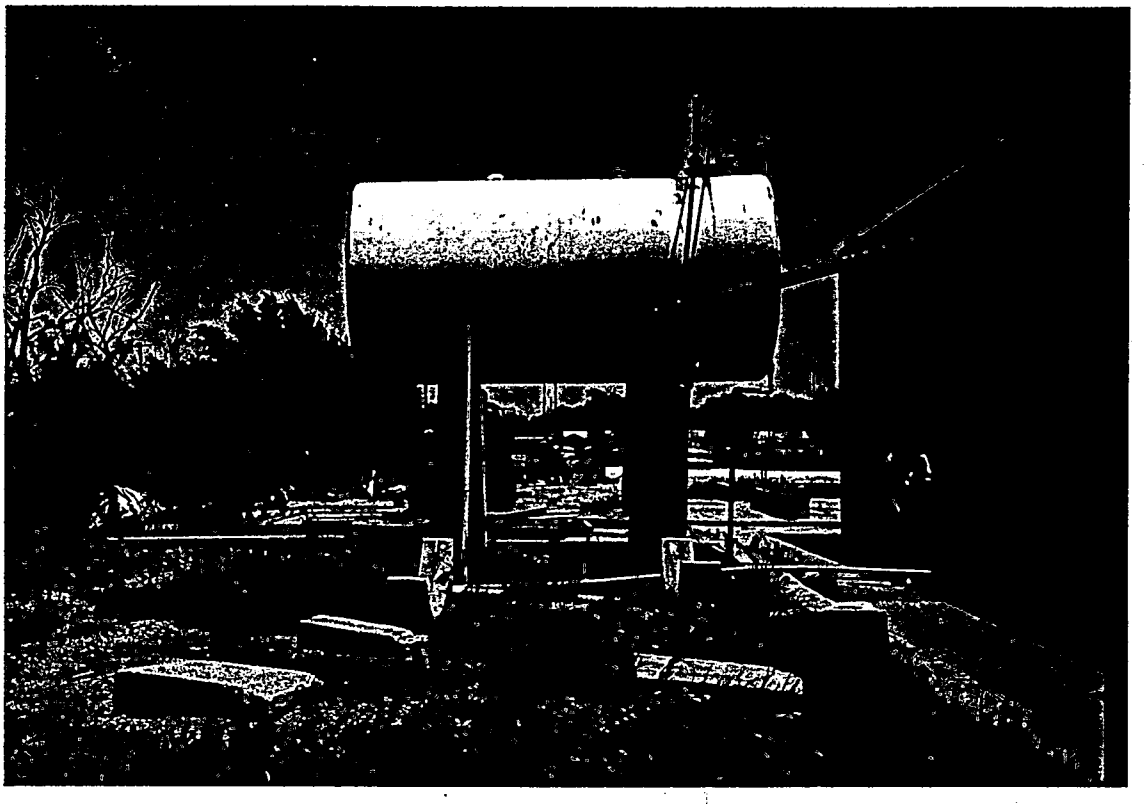


Film Roll No.: 2 Date: 6/19/90 Time: 1410
Exposure No.: 14 Photographer: JPN
VSI Observations: Disassembly of 4 former storage tanks performed by SCSC personnel at northeast corner of SCSC property. View - E

Film Roll No.: 2 Date: 6/19/90 Time: 1415
Exposure No.: 15 Photographer: JPN
VSI Observations: Fence line between SCSC and drainageway.
View - NW to N

Film Roll No.: 2 Date: 6/19/90 Time: 1415
Exposure No.: 16 Photographer: JPN
VSI Observation: Fence line between SCSC property and drainageway. View - NW to N

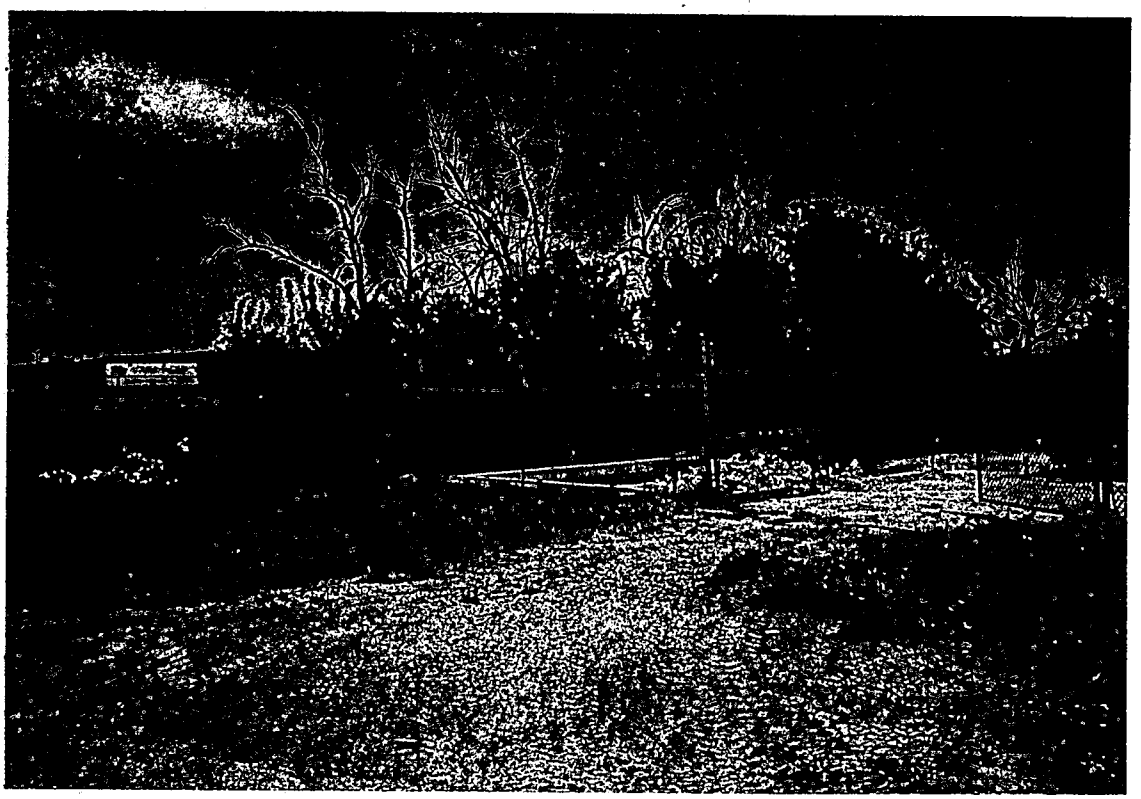
Film Roll No.: 2 Date: 6/19/90 Time: 1415
Exposure No.: 17 Photographer: JPN
VSI Observation: Fence line between SCS and drainage way. View - NW to N



Film Roll No.: 2 Date: 6/19/90 Time: 1420
Exposure No.: 18 Photographer: JPN
VSI Observations: Out-of-service muriatic acid storage tank; previously piped into acid repackaging area inside Bldg. 17. Tank now empty. View - E

TOP

Film Roll No.: 2 Date: 6/19/90 Time: 1422
Exposure No.: 19 Photographer: JPN
VSI Observations: Debris-filled former still cooling water sump (Note etching of concrete & bowing of side wall). View - N



Film Roll No.: 2 Date: 6/19/90 Time: 1425
Exposure No.: 20 Photographer: JPN
VSI Observations: NW corner of SCSC property (debris-filled concrete tank area). View - NE

APPENDIX C

VISUAL SITE INSPECTION NOTE LOG

WASTE SCIENCE AND TECHNOLOGY CORP.

Owner HRI
Plant WICHITA Unit
Project No. 45520.100 File No.
Title VSI NOTES - RFA

Computed By J.P. NETT
Date 6/19 19 90
Checked By
Date 19
Page COVER of

DO NOT WRITE IN THIS SPACE

Visual Site Inspection
Hydrocarbon Recyclers Inc.
6/19/90 8:30 am

Present @ meeting ✓

Mark Matthews	USEPA Region VII, RCRA Permits Section, Site Manager
Brenda Clark	Kansas Department of Health and Environment, Topeka Office
Jerry Frizzell	Bi V Waste Science and Tech. Corp
John Nett	Bi V Waste Science and Tech. Corp., HRI RFA W.A. Manager
Chuck Trombold	Hydrocarbon Recyclers Inc., General Manager - Wichita Facility
David Trombold	Hydrocarbon Recyclers Inc., Sales Manager - Wichita Facility
Catherine Orban	Hydrocarbon Recyclers Inc., Permit Writer - Tulsa Operations
?	Hydrocarbon Recyclers Inc., Staff Engineer - Wichita Facility

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REVISED, SUPERSEDED, AND VOID CALCULATIONS MUST BE CLEARLY IDENTIFIED, INITIALED, AND DATED BY THE RESPONSIBLE INDIVIDUAL.

commenced operations in 1976 in Wichita

Reid Supply (RS) - original owner of property which currently comprises HRI
- made initial application for Part B permit

Paint Company prior to 1979

(other RS facility at 911 Indianapolis was sold in January 1988

Conservation Services Inc. - seperated from Reid Supply in 1985

In Oct 1986, RS sold NE property to Service Chemical (although Chuck & David Trombold held title to the property itself during occupation by Service Chemical who only rented property space)

Prior to 1981, Reid Supply was involved in 3 areas of service 1) textile management 2) industrial chemical supply 3) haz. waste operations

From sometime during a period from 1983 to 1984, still reclaimation operations were performed in Bldg 17 (west end) (Abondoned still and old dispersing unit are still housed in this area)

Service Chemical Supply sold (left) NE portion on July 15, 1988. The majority of operations/equipment have been dismantled w/ the exception of tanks (cutting up 4 above ground 6/19; dismantled tanker truck 6/18). Still two 500 gallon tanks (fuel oil?) and muriatic acid tank)

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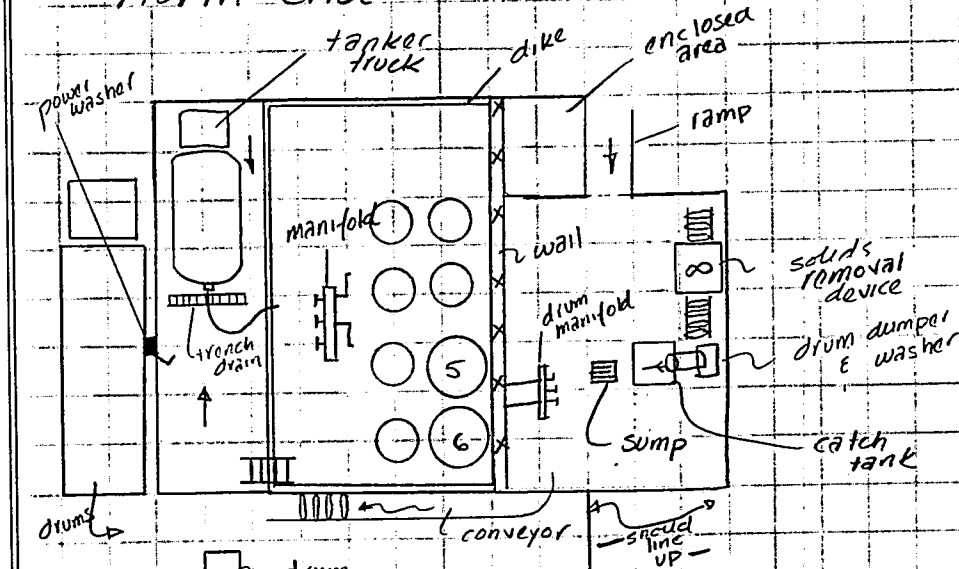
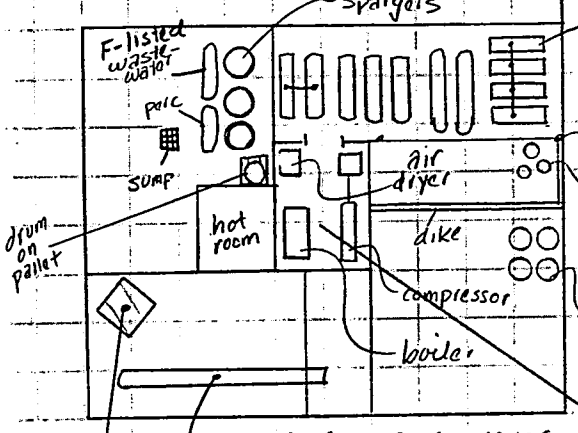
BUILDING K (6) - comprised of processing area on south end and blending / dumping area on north end



Pipe channels in process area pass to main sump in truck bay



Building D (5) primarily storage with elevated tanks on west end

The whole NE corner is to be diked in the future.

Tanks in Bldg 6 are all two years old with annual ultrasonic thickness testing

Also, tanks are visually inspected during time tank empties

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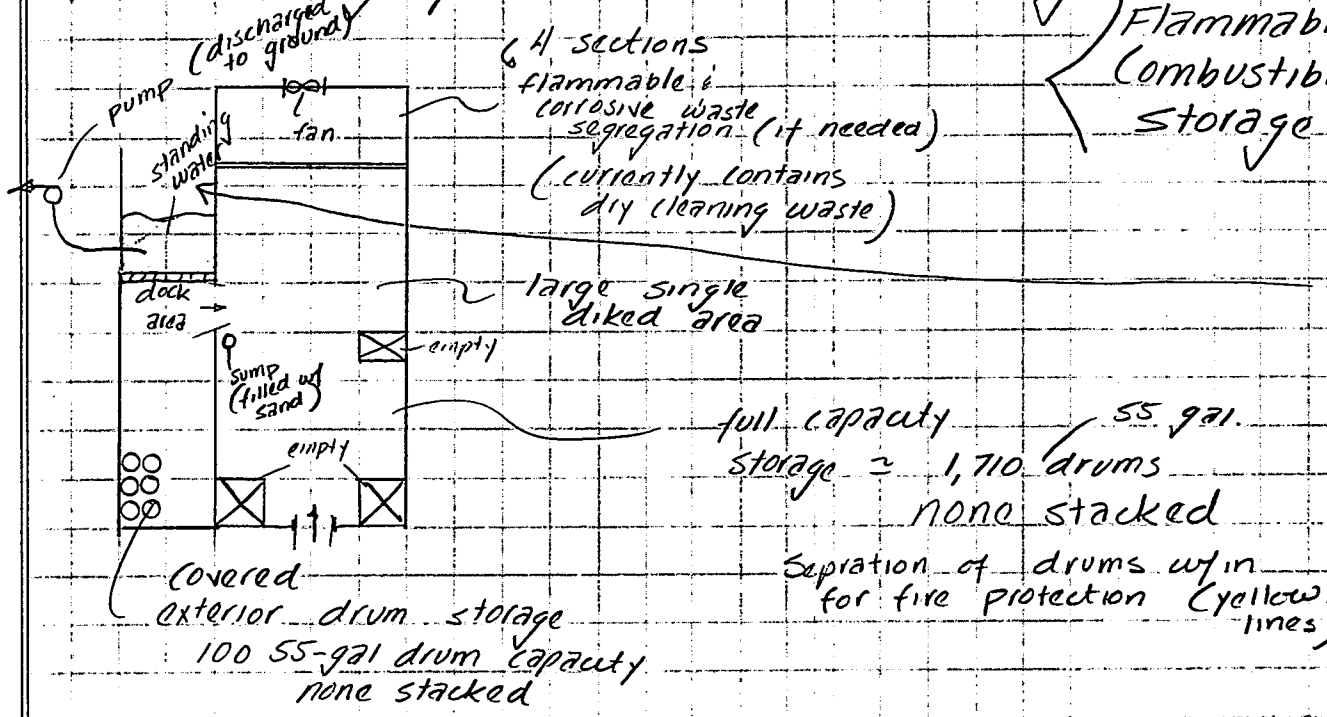
Solids dryer in Bldg D will go on line in about 1 month. This dryer will operate by distilling solvents out of still bottoms (solids) for reuse.

Building K was reconstructed about 2 years ago and is now entirely covered.

Warehouse C - drum storage; bagged dry cleaning perc. cannister storage



Warm Room (Building 8) - Area is used to warm up iced drums during winter months. The room is totally diked with no sumps. Room contained a drum warmer jacket that was used on an experimental basis to warm drums.

↳ Strong odor noted during VSI -

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North portion of process area - kiln fuel blending is performed in this area. Formerly this was performed on a concrete pad west of the current area. This pad (and two tanks) were removed under a closure plan. This are is also a staging area for process of drums.

Deep well injection -

1. Chemical Resources Inc. - Tulsa, OK
2. Gibraltar - Winona, TX (HRI just received approval with Faculty. Faculty operates under a no migration petition.

Sparging Room - Live steam strips perc from canisters. Condensate passes to a phase separator where perc. is transfered to a surge tank then Tank 11 and condensed steam is transferred to a surge tank as F-listed ww (< 1%) then Tanks 9 or 10.

New sparging equipment is expected to go on line 6/21/96 which will recycle phase separation water (minimizing F-listed ww waste stream)

Currently non contact cooling water circulated through sparging units is discharged to the municipal sewer.

Spent cartridges are disassembled with
scrap metal → recycler
filter paper → ① accumulate paper with BTU value > 6,000
② disposed as solid waste if it meets treatment standard

(Regional standard (as of 2/90) - 6,000 BTU for incin.)

plastic → shredded for incineration (although it currently meets the treatment standard)

carbon → ① disposed for energy recovery
② regenerated

Still operations - performed in Building 17 between 1983 - 84
Moved over to current HRI property in 1984.

Reconditioned drums - These drums are retained or brokered out for reuse. About 25% of the drums received are crushed

Warehouse C — All drums are unloaded in the dock area of Warehouse C
Drums in Jan ≃ 500
Drums in June ≃ 1,400

Sizes of drums handled
55 gallon metal - 17E, 17H
80 gallon overpacked drums
30 gallon plastic - incineration
16 gallon plastic - dry cleaners
15 gallon plastic

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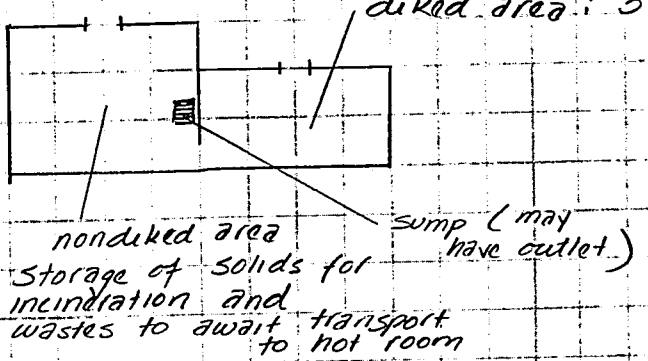
Building B (3) - Corrosives Storage Area



Test performed by HRI to determine whether it is a corrosive solid by measuring pH level of water from solid

Fingerprinting of Wastes

check in w/ coordinator
check in materials

1. Truck checks in @ Building A (2) and check to see if waste pic on is nan to verify shipment is to be received
2. Drums are unloaded in dock area of Building C
3. Check waste manifests, labeling and drum count
4. Conduct composite sampling of drums' contents for S.G. and pH 100% sampling

(2) (3) concurrent

Per S.G., wastes w/ like gravities are combined

Per pH, wastes are properly segregated

Rejected wastes (per sampling) remain on the dock until generator or transporter returns to pick up waste. A last resort is to take waste back

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Building A - Laboratory

Blending of wastes is performed
Wastes are analyzed for kiln fuel capacity

Samples are stored for a maximum of 6 month. in a storeroom equipped with a timed exhau. fan. After 6 months, processed through facility

No outside analytical services are performed within the lab but clients periodically ship in samples via cooler.

Transportation Majority of wastes are hauled in drums in a truck by others
Some tanker trucks may be received
HRI operates one 30 drum capacity van owned by VSPCI - Tulsa Operations for pick up from clients. Wastes may be picked up from dry cleaners and other select clients

No vehicle washdown area although trucks may be power washed at truck bay south of Bldg 6

- Drums are unloaded with a forklift and only opened in the dock area (concrete and diked)

- Tanker trucks may pull into area east of Building K(6) for off loading. HRI stated this area is equipped with a blind sump. Waste will first be tested in tanker and only

unloaded thereafter. Tankers are used primarily for ship outs vs ship in. Tankers are also received in truck bay.

Manifesting
File maintained in east end of Bldg 2. Upon check in, manifests are checked for match with drum labels.

Only nonmanifested wastes accepted are nonregulated (nonhazardous) wastes. Generator still must fill out seperate HRI form (and certify on form that the waste is nonhazardous)

No onsite ww pretreatment system
No current or past UST systems

GW monitoring - conducted in the past until NEWID investigation started (sampled by KDHE in past also)

Entire property is fenced with primary acces in SE corner. Auxiliary gate at NW corner of property line is always locked.

Scrap Yard SW corner of site. Previously contained old dispersing system, old still (now in Bldg 17), piping and out-of-service tanks - Primarily scrap metal

HRI stated no drums were stored here in the past.

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Two aboveground 500 gallon storage tanks (diesel fuel and gasoline) are located West of Building B (3)

Sumps HRI reports all are blind

Truck bay
Tank area
Flammable storage area
> all one diked area

Pipe channels in tank process are connect with main sump in truck bay

Service Chemical Supply property (historical)

Building J (18) - Virgin product storage mainly stored in drums small office, south central end NO USTs (excl. vau

Building I (17) - 50 gal/min still in operation carbon steel construction Handled flammables w/ recycled products stored in Building J

pit in SW corner covered w/ plate

Dikes were located between the still area and an aud storage area.

Eastern portion of Bldg I was used for storage of virgin chemicals - dry chemical storage, aud storage

Drums were stored behind (north) Building J prior to 1981

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Gondola Loaded w/ a hydraulic drum dumper Dry solids

HRI has submitted plans for upgrading various portions of the site.

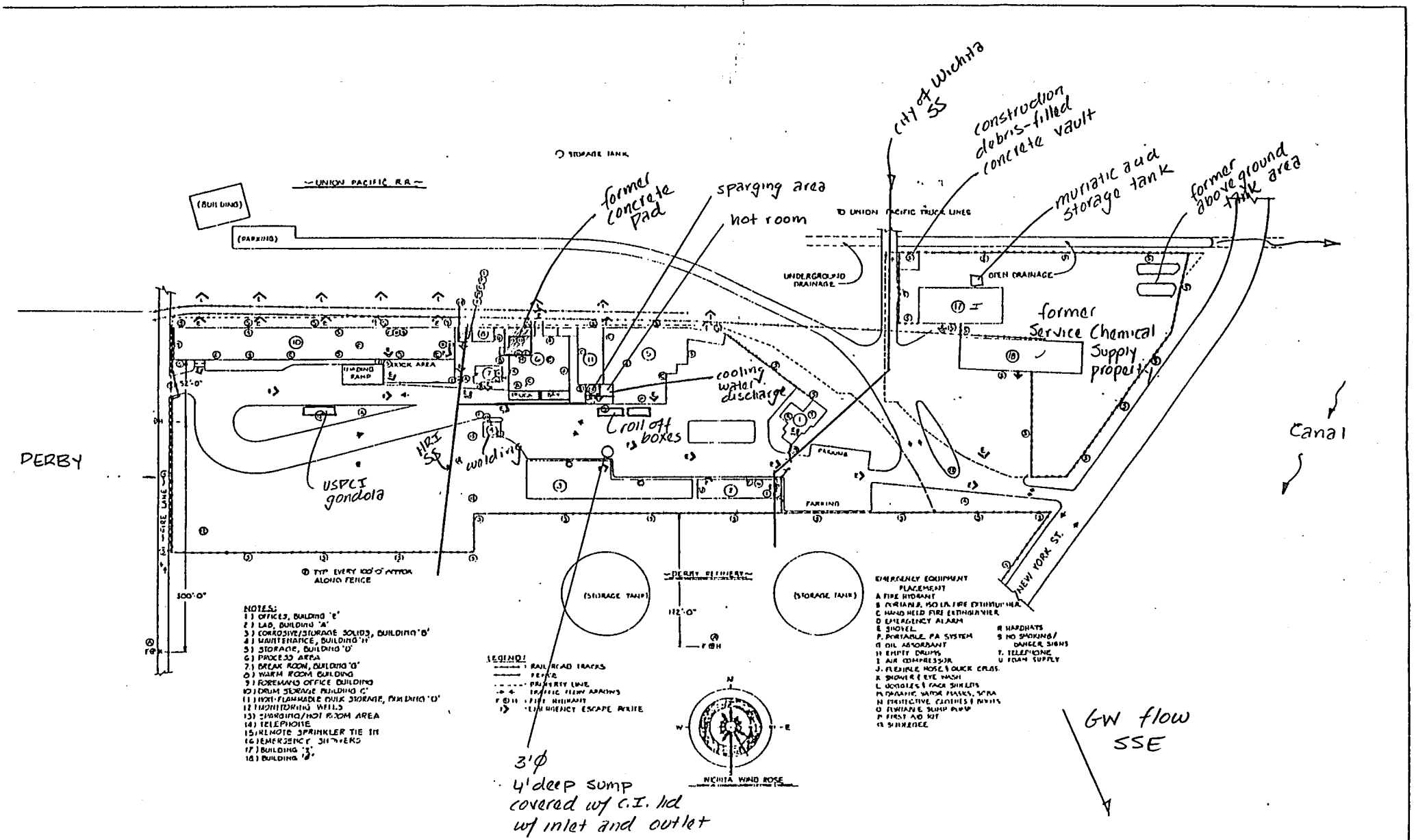
SCS property (currently)

Building I — Debris filled concrete sump (4'x4'x4') outside former still area, SW corner of facility

Building J — Containers from household waste collection program conducted by USPCI Remedial Services. Collected at Grassy Mountain, UT facility

Stored in open 55-gal drums
Lab packed 55-gal drums
Bags

Containers were removed from lab packs and the materials will be recycled.



NOTES:
1) OFFICES, BUILDING 'E'
2) LAB, BUILDING 'A'
3) CORROSIVE/STORAGE SOLIDS, BUILDING 'B'
4) MAINTENANCE, BUILDING 'F'
5) STORAGE, BUILDING 'D'
6) PROCESS AREA
7) BREAK ROOM, BUILDING 'G'
8) WARM ROOM BUILDING
9) FOREMANS OFFICE BUILDING
10) DRUM STORAGE BUILDING 'C'
11) NON-FLAMMABLE BULK STORAGE, BUILDING 'D'
12) MONITORING WELLS
13) SPARGING/HOT ROOM AREA
14) TELEPHONE
15) REMOTE SPRINKLER TIE IN
16) EMERGENCY SHOWERS
17) BUILDING 'J'
18) BUILDING 'I'

LEGEND:
RAILROAD TRACKS
FENCE
PROPERTY LINE
TRAFFIC FLOW ARROWS
FIRE HYDRANT
EMERGENCY ESCAPE ROUTE

EMERGENCY EQUIPMENT PLACEMENT
A FIRE HYDRANT
B PORTABLE, ISO LB. FIRE EXTINGUISHER
C HAND HELD FIRE EXTINGUISHER
D EMERGENCY ALARM
E SHOVEL
F PORTABLE PA SYSTEM
G OIL ABSORBANT
H EMPTY DRUMS
I AIR COMPRESSOR
J FLEXIBLE HOSE & QUICK CPLGS.
K SHOWER & EYE WASH
L GOGGLES & FACE SHIELDS
M ORGANIC VAPOR MASKS, SCBA
N PROTECTIVE CLOTHES & BOOTS
O EXPLOSIVE SUMP PUMP
P FIRST AID KIT
Q SILENCER
R HARDHATS
S NO SMOKING/ DANGER SIGNS
T TELEPHONE
U FOAM SUPPLY

GRASS & GOODNESS ENGINEERS
1340 WEST 31ST STREET
WICHITA, KANSAS 67203
(316) 838-0101

HYDROCARBON RECYCLERS INC.
WICHITA, KANSAS

B&V WASTE SCIENCE AND TECHNOLOGY CORP.

MEMORANDUM

Hydrocarbon Recyclers, Inc.
RCRA Facility Assessment
List of Preliminary SWMUs and
Potential Areas of Concern

BVWST Project 45520.100
BVWST File 210.03
June 6, 1990

To: File

From: John P. Nett JPN

Per review of annual RCRA Compliance Inspection Reports prepared by KDHE, the following list of preliminary solid waste management units and potential areas of concern for the Hydrocarbon Recyclers, Inc. facility has been prepared.

Processing Area — Flammable by NFPA (< 100° Flashpoint)

Solid Waste Management Units - There are eight hazardous waste storage tanks located in a tank processing facility. The tank process area is equipped with secondary containment. The tanks are as follows:

all tanks carbon steel

Tank 1 - ~~1,000~~ 7000-gallon pressurized storage tank for hazardous and flammable wastewater (D001, D007, D008) for offsite deep well injection. mat is psi for off loading

Tank 2 - 7,000-gallon ambient pressure storage tank for non-chlorinated solvents (D001, F003, F005) for offsite recycling.

Tank 3 - 7,000-gallon pressurized blending tank for waste paint solvents (D001, F003, F005) and sludges; unblendable solids are removed for offsite ~~incineration.~~ energy recovery - (cement kiln)

incinerate very little tank bottoms

Tank 4 - ~~1~~ 1,000-gallon pressurized storage tank for waste lacquer thinner (F003) for offsite recycling

Tanks 5 & 6 - two ~~24,000~~ 21,000-gallon ambient pressure storage tanks for blendable wastes (D001, F001; F002; F003; F005; U-listed solvents corresponding to F001, F002, F003 and F005; U044; U045; U077; D004-11) for onsite blending as kiln fuel for offsite ~~incineration.~~ energy recovery

Tank 7 - 7,000-gallon storage tank for waste methyl ethyl ketone (F005) for offsite reclamation. for ketones

pressurization only for off loading

Tank 8 - 7,000-gallon storage tank for nonblendable wastes (F001; F002; F003; F005; F024; U-listed solvents corresponding to F001, F002, F003, and F005; U044, U045; U077) for offsite commercial incineration.

Areas of Concern - A 500-gallon storage tank for No. 2 diesel fuel tank is utilized for a "drum dumper" device in the process area.

Storage Building D

Solid Waste Management Units and Areas of Concern - There are eleven storage tanks located in Building D containing hazardous and nonhazardous waste; fuel oil; and machine coolant oils. Storage tanks are elevated 15 feet above ground level upon metal frame work. The tanks are as follows:

Tank 9 - storage tank for wastewater (F001, F002, F003, F005; total F-listed compounds less than one percent) for offsite deep well injection (under special land ban exemption as reported by HRI).

Tank 10 - storage tank for wastewater (F001, F002, F003, F005; total F-listed compounds ~~greater~~ than one percent) for offsite disposal (method unknown).

Tank 11 - storage tank for perchloroethylene (F002) sparged from filter cartridges and carbon for offsite reclamation.

Tank 12 - contents of tank and disposition of contents unknown.

Tank 13 - storage tank for waste trichloroethylene (F002) for offsite reclamation.

Tank 14- storage tank for No. 2 diesel fuel.

Tank 15 - series of four 9,000-gallon storage tanks piped together for waste oil storage for offsite reclamation.

Tank 16 - 9,000-gallon storage tank for water-soluble machine coolant oils (D001, D007, D008) for offsite deep well injection or offsite incineration (if BTU value meets the regional allowance of 8,000 BTU)

Sparging Room (Building D)

Solid Waste Management Units - Three steam-pressurized units are located in the south portion of Building D. Dry cleaning carbon and filter canisters are sparged to remove perchloroethylene. Two 80-gallon holding tanks are utilized, one to contain contaminated water and one to contain perchloroethylene. The contaminated water is pumped to Tank 9 on a daily basis. A drum is utilized for liquid collection under the steam condensate line at each sparging unit.

Area Adjacent and North of Processing Area

Areas of Concern - Located in this area is a drum emptier, a waste blender, a drum washer, and a drum solids removal device. Dispersing is performed in a blending tank which is drained on a daily basis. Blending of wastes is occasionally performed directly within a drum. (A second blender/disperser area may be located just outside the southeast corner of Building C). Empty drums which are to be crushed (except for corrosive waste drums) are first washed with Stoddard solvent. A sump located in this area collects water which is pumped out daily (as necessary). This liquid is handled as F-listed wastewater. Drums are crushed at the southeast corner of the tank processing facility.

Hot Room

Areas of Concern - An enclosed facility maintained at 150° F is utilized to lower the viscosity of certain wastes, such as paraffin, prior to blending.

Storage Building C

Areas of Concern - A maximum permitted storage capacity of 1,700 drums may be accumulated in Building C. Previous inspections have noted damaged and seeping drums stored in this warehouse. The building is equipped with collection sumps which may be pumped out following collection of spilled wastes. Within Building C, an area has been segregated for corrosive waste storage. As many as 300 drums have been noted as being accumulated in this area of the building. (Building B has additional storage capacity for 400-500 drums of corrosive wastes). In the truck unloading area outside Building C, as many as 2,400 drums may be staged, by permit.

Lab Building E

Areas of Concern - Waste samples are analyzed onsite and accumulated in a drum in this building following analysis.

Out-of-Service Distillation Unit

Areas of Concern - While no onsite reclamation or distilling processes are reported in current practice, a distillation unit was placed in a field south of Building C. It is unknown whether this unit is still located in this area.

dsm

(has been moved inside Service Chemical Bldgs no other out-of-service

I Buildin (dead storag